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3, TOTHILL STREET, WESTMINSTER, LONDON, S.W.1
Telephone: WHitehall 9233 (12 lines) *Telegrams: "Trazette, Parl London"*

BRANCH OFFICES
GLASGOW: 87, Union Street . . . . . *Central 4646*
NEWCASTLE-ON-TYNE: 21, Mosley Street . . *Newcastle-on-Tyne 22239*
MANCHESTER: Century House, St. Peter's Square . . . *Central 3101*
BIRMINGHAM: 81, Edmund Street . . . . . *Central 3049*
LEEDS: 70, Albion Street . . . . . *Leeds 27174*

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Railway Shopmen's Wages

PENDING the publication, believed to be imminent, of the findings of the court of inquiry set up by the Minister of Labour to examine the claims of the railway trades unions, the focus of attention in matters of railway pay has moved to railway shopmen, whose application for a substantial pay increase was renewed last November. The last increase in pay which railway shopmen received was in February, 1948, and they did not participate in the increase granted to lower-paid railwaymen in September, 1950. In May, 1949, the N.U.R. submitted an application for a flat-rate increase of 10s. a week, and for enhanced overtime, though the Confederation of Shipbuilding & Engineering Unions, which have railway shopmen in their ranks, were not parties to the claim. The application was eventually declined by the Railway Shopmen's National Council in November, 1949. The renewal of the claim through the Shopmen's Council followed the protracted negotiations in the engineering industry which led to new rates of pay in November, 1950. This agreement provides for consolidated minimum time rates of 118s. a week for skilled and 100s. for unskilled workers. In view of the increase in the minimum rates of timeworkers, the minimum piecework standard has been improved, so that piecework prices or times must satisfy the condition that a worker of average ability can earn at least 45 per cent. on the existing basic rate instead of 27½ per cent. as at present. There are many cases where existing prices or times already satisfy this new condition, and where this is so no change in prices or times is due, and the workers concerned will receive no increase. In reply to the railway shopmen's claim it is understood that, in an endeavour to reach a settlement, the Railway Executive has made an offer which the trade unions have undertaken to consider. Although the unions make comparisons with outside engineering rates, the practice in the past has been for the railway shopmen to keep step with the increases afforded to other railwaymen. It is, of course, necessary in considering the claim to pay some regard to outside engineering, but the position was made abundantly clear in an Industrial Court decision in 1922, in which the view was expressed that railway service should be regarded as a distinct industry to which special conditions attach, and that the court should not impose on the (then) railway companies and the employees an obligation to adopt or follow the rates of wages in other industries with similar classes of labour.

Transport Integration in Scotland

DURING the past week Lord Hurcomb has paid another visit to Scotland and on Wednesday he issued a statement on progress made in the integration of rail and road services in the Scottish Region. This statement is summarised in other pages this week. There has just been started a parcels container service between Glasgow and London which will save one-third of the time formerly taken by road transport from depot to depot. This is similar to the road-rail container service now running experimentally between London and Manchester in which the traffic carried amounts to the equivalent of one train-load in each direction every day. Lord Hurcomb referred also to the steamer services on the River Clyde which at present are being run at a considerable loss. Tenders are to be invited by the Railway Executive for four passenger ferry boats and three general-purpose vessels, and, subject to the need for economy, something like £1,000,000 will be spent on improving these services. Lord Hurcomb explained also the position regarding the unremunerative branch lines and to the progress of the nationalised road passenger services in Scotland which carried 16,000,000 more passengers and operated 750,000 more miles in 1950 than in 1949.

G.N.R.(I.) Stockholders Circularised

DEBENTURE and stockholders of the G.N.R.(I.) have been asked to signify their acceptance or rejection of the valuation of the Dublin and Belfast Governments, on which the offer for acquisition of the company for the sum of £3,900,000 is based. Accompanying the voting form is a statement detailing the inadequacy of the offer and the injustice of valuation by Stock Exchange quotations. It includes such pertinent sentences as "the company remains the only major transport undertaking [in Ireland] which for years has earned, and still earns, a profit where not deprived of its essential powers for a compensation that was never met." The considerations which led the two Governments to agree on their joint offer can have included no reference to the company's experience since 1935. From 1946 to 1950 the stockholders have spent out of revenue on maintenance and renewals about £1,600,000 more than they are now offered for the whole undertaking, and the offer is, in fact, £1,109,900 less than the value of the company's lands and buildings alone.

Overseas Railway Traffics

AN overall decrease in aggregate working expenses of the Canadian Pacific Railway for 1950 and a £5,108,000 increase in gross earnings, resulted in a £5,763,000 improvement in net earnings for the year. Gross earnings for the 12 months were £126,192,000 and net earnings amounted to £12,674,000. During December C.P.R. working expenses rose by £654,000 to £9,654,000, though this was accompanied by a £1,235,000 increase in gross earnings at £11,274,000, and the net result was £581,000

higher at £1,620,000. The improvement in South African railways receipts for the financial year 1950-51 amounted to £8,737,157 on January 6, when aggregate traffics since April 1 were £68,094,555. Receipts for the week ended January 6 were £296,985 higher at £1,531,505. On the Costa Rica Railway traffic was interrupted on only seven days last December, as compared with 25 days in the previous year, and receipts for the month were C525,677 higher at C883,460. Traffics for the 26 weeks ended December 31 were C6,180,729, as compared with C5,155,862 for the equivalent period of 1949-50.

C.I.E. Fares to be Increased

ALL train and bus fares and rail and road freight rates are to be raised by Coras Iompair Eireann to cover the estimated cost, about £1,000,000, of the present wage increases. Short-distance bus fares will probably be adjusted by reducing the distance of the present 2d. and 3d. stages. Travel by long-distance city buses and provincial buses will also cost more. The increases cannot yet be estimated as negotiations are in progress for shop grades, road freight workers, and others. Those who have been granted higher salaries and wages during the last six months include the clerical staff, traffic staff, locomotive men, and busmen. At recent wage negotiations, when the policy of increased charges to meet increased wages was stated, it was maintained that C.I.E. bus fares, although increased two years ago, compared more than favourably with those elsewhere. In our March 25, 1949, issue we recorded the revision that year of C.I.E. rail and road fares, when the third class single fares were raised from 1½d. to 1¾d. a mile. The increases were then expected to produce about £860,000—£750,000 from the buses and £110,000 on the railways. Specimen existing third class single fares from Dublin are: Cork, 24s. 3d. (165½ miles), and Galway, 19s. (128 miles).

Another United States Railway Strike

THE railway strike which began on January 30 among shunters at yards in Chicago and Detroit has rapidly spread to 100 cities, necessitating severe cuts in services and closure of many factories, and delaying the despatch of supplies to Korea. The Pennsylvania Railroad has stopped all freight traffic out of New York, where the New York Central and the New Haven have suspended all their suburban services. The strike results from the refusal of the men's union to accept a pay and working agreement, and it comes only six weeks after a similar strike which collapsed after three days, when the Government issued an anti-strike order. Last year the unions demanded a 40-hr. week and a wage increase of 2s. 3d. an hour for operating staff. When these demands were not met, and a national railway strike threatened in August, President Truman ordered the army to take over the railways, which it has since technically operated. Conferences in Washington between the unions and the managements are reported to have reached a deadlock, but are continuing, at the request of the national mediation board.

Effect of Tunnels on Radio Signals

WHEN radio communication is extended beyond its usual marshalling yard applications to service on running lines, the effect of tunnels may limit its usefulness. Experiments at Lees Moor Tunnel with metre-wave equipment some time ago suggested that three relay stations would be necessary inside the tunnel for reliable exchange of messages between signal boxes respectively half a mile and a mile and a half from its ends. In recent months further tests have been made on decimetre wavelengths at Watford and Primrose Hill Tunnels by engineers of the G.E.C. Research Laboratories with the co-operation of the London Midland Region. A survey of the results published in the *Wireless World* shows that reliable communication through both tunnels was obtained on 460 Mc/s, curvature of the line having little effect and no relay stations being employed. On this frequency, however, there was a marked fall in signal strength when the transmitting aerial was moved just inside the tunnel and the receiver was in the open at the other end. On 1,400 Mc/s this effect was not recorded, but the conclusion is that the lower frequency probably would be preferred for practical reasons. The suggested range for communication in and through tunnels is between 82 Mc/s and 460 Mc/s, but relay stations would be necessary at the lower end.

Train Speed Recording

AMONG the many problems associated with the day to day running of a railway system is the monitoring and control of the speed of trains on sections of the line over which it is necessary to impose speed restrictions. To ensure that speed limits are being obeyed, the rate at which each train passes through the restricted zone should be measured and permanently recorded with the time of measurement. Indeed, the fact that such recordings are being made, probably has a deterrent effect on any tendency by drivers to ignore such restrictions, and so provides an effective control in itself. Furthermore, information regarding the average speed and density of traffic over a particular section of the line is often of considerable value to railway administrations. A type of train speed recorder that has recently been evolved is described in other pages this week.

A New Booking Office at Victoria

THE new booking hall at Victoria for the Eastern Section of the Southern Region, and the most up-to-date at a London terminus, is slightly smaller than its predecessor but the clear floor space gives it an air of greater spaciousness. It is flanked on three sides by a modern, glass-fronted ticket office, an attractively-designed bookstall, and a row of telephone booths. The six ticket windows have bronze frames and illuminated interchangeable "first," "third," and "advance booking" signs. In the centre are timetable stands and a clock. As described in our article elsewhere in this issue, perhaps the most striking feature is the lighting in which cold cathode fluorescent tubes are used to form decorative circular ceiling features, as well as being installed in standard fittings forming a rectangle over the centre of the hall. A warmth of tone is given by the use of white and gold tubes together. Previous cold cathode lighting installations on the Southern have included Hastings booking hall and the "Golden Arrow" platform at Victoria, but the latest example goes a step further in treating lighting as an architectural feature.

Locomotives for Tanganyika

THE policy of designing metre-gauge rolling stock capable of conversion to 3 ft. 6 in. gauge owing to the probable unification of gauges in Africa south of the Equator has been adopted by the Crown Agents for the Colonies for some years. This policy has been continued in the design of two side-tank locomotives recently supplied by W. G. Bagnall Limited, Stafford, for operating on the Tanganyika section of the East African Railways & Harbours, and the wheel centres have been designed so that new tyres can be fixed in the 3 ft. 6 in. position by reducing the dia. of the wheel centres and increasing the tyre thickness by ½ in. The locomotives, which are described and illustrated elsewhere in this issue, are generally similiar to shunting engines previously supplied to Tanganyika, but they include also a number of new features with a view to standardisation of parts with other locomotives already in operation. The locomotives are of plate-frame construction with pressed-steel frame stays, and the cylinders are 16 in. dia. × 22 in. stroke. Steam distribution is effected by 8 in. dia. piston valves actuated by Walschaerts valve gear. The Ajax system of grease lubrication is provided on the motion, side rods, connecting, and eccentric rods. The firebox is of Belpaire design and fitted between the frames. The inside firebox is of copper and the roof is stayed by direct steel stays with four rows of sling stays at the front to allow for expansion; the water space stays are of copper.

Gas-Turbine Development in U.S.A.

IN the U.S.A. the Union Pacific Railroad has ordered from the American Locomotive and General Electric companies ten gas-turbine-electric locomotives similar to the one which has been under test for the past 18 months. Already this pioneer locomotive has been in operation for 5,000 hours, running some 80,000 miles, handling in all 285,000,000 gross ton-miles of freight. Some of the tests have been severe, for the altitudes to be surmounted on the principal main line are considerable and reach a maximum of 8,013 ft. The locomotive appears to be working satisfactorily on Bunker C oil, which is a cheap grade of fuel. The new locomotives, like the first unit, will be of 4,500 b.h.p. each, 83 ft. 7½ in. long, and carried on four four-wheel bogies, with all eight axles motor-driven. They will have driving cabs at one end only, which suggests that it may be the intention to use them as twins of 9,000 b.h.p., with multiple-unit control. They will be regarded as freight locomotives and geared for a maximum speed of 65 m.p.h. As yet there does not appear to have been any experimental operation of passenger trains in the U.S.A. with gas turbine-electric power.

A New Chairman for the Railway Executive

ALTHOUGH the resignation of Sir Eustace Missenden from the chairmanship of the Railway Executive was announced before the end of last year and it was known that he would be relinquishing his duties as from January 31, the name of his successor was not made public until the day on which the change-over was to take place. The smoothness of the transition was by no means assisted by the delay in the interim. It was but natural that a number of names for the appointment should have been canvassed, and a state of uncertainty created which could have been avoided by a more speedy announcement by the Minister that he was appointing Mr. John Elliot, Chief Regional Officer of the London Midland Region, to the highest executive position on the British nationalised railway system. To a great many railwaymen the appointment will occasion no surprise. His was the first name which came to mind when it was known that Sir Eustace Missenden had decided that the time had arrived for him to lay down the burden of a very onerous office. On the other hand, there can be no denying that there were others in the field who felt that they had a claim to consideration, just as there were some who were convinced that they could nominate railway officers whose especial talents made them deserving of selection.

In any circumstances, the decision as to who should be approached to fill the chairmanship at the Railway Executive could not be without its especial difficulties. In 1947, there was a clear-cut case for inviting one or other of the General Managers of the then-existing main-line railways to undertake the task. Since that time there have been changes in relative status on the railways. Moreover, at the present juncture the position is made no easier by the fact that, within the next two years, one must expect changes in the personnel and perhaps even in the constitution of the Railway Executive itself.

In the ordinary course of events, if the railways had remained in private hands, Mr. Elliot would have succeeded to the General Managership of the Southern Railway, which he joined in 1925. He would have been the natural successor to Sir Eustace Missenden in that capacity and it must be a matter for gratification to all Southern railwaymen that both the first and second chairmen of the Railway Executive should have come from their ranks, for apart from Mr. Elliot's recent period of office as Chief Regional Officer of the London Midland Region, which he has occupied for only a year, the whole of his railway career has been spent with that line. Both he and Sir Eustace Missenden came directly under the influence of Sir Herbert Walker, and on more than one occasion Mr. Elliot has paid generous tribute to the inspiration and encouragement which he received from that distinguished railway manager. Since 1936 he has been very closely associated with Sir Eustace Missenden, to whom for many years he acted as deputy, first when Sir Eustace (then Mr.) Missenden was Traffic Manager, and afterwards General Manager.

There can be no dispute as to the magnitude and complexity of the task which Mr. Elliot has undertaken. At present, perhaps more than at any other time, the railways face problems both internal and external which will call for skilled and energetic leadership, resourcefulness and the creation of a close loyalty and team-spirit throughout the service if they are to be surmounted successfully. Mr. Elliot is a vigorous personality who has had a wide experience on the administrative and traffic side of railway management. In a relatively short time he has achieved a high measure of success in the profession he adopted twenty-six years ago. Not the least of his achievements has been the close relationship he has always fostered with his colleagues and all grades of staff on the systems he has served and the loyalty he has secured from those with whom he has worked. These gifts should stand him in good stead in the task which he is now undertaking.

The Coal Crisis

AFTER saving much coal through skilful weeding out of passenger services with a minimum of inconvenience to the travelling public, the Railway Executive now has had to start on a further series of cuts in passenger services; some details of principal trains suspended and of the coal economies effected thereby are given elsewhere in this issue. The additional services (including restaurant-car facilities) so far cancelled may not at first sight seem to cause hardship to any great number of the travelling public, or restriction of industrial output, for reduction of business and workmen's trains has been carefully avoided; alternatives of one kind and another to the chief long-distance expresses in most cases already exist, or are being provided, and restaurant cars have been withdrawn only where patronage did not justify the extra weight hauled and reduction of seating capacity.

The withdrawals already announced nevertheless are unfortunate for the railways from the commercial point of view. It is only recently that, with their resources depleted and the Treasury ban on many new works, British Railways have begun to offer services which in frequency and in the provision of refreshment-car and other amenities could be said to be in any way comparable to pre-war. The public, which is always ready to grumble, is to some extent bound to interpret the careful pruning of services (especially if it affects the more spectacular expresses) as a wholesale worsening; and this, with the relatively high railway fares, must result in some transfer of patronage to bus and motor-coach—to the latter especially. Road passenger transport is not directly affected by the crisis (even if it will suffer later on from reduced industrial output or electric power cuts); road traffic operators indeed are ready and anxious for much medium- and long-distance passenger traffic which is now rail-borne, and the extent to which some undertakings are prepared to go is shown by the planned introduction of long-distance motorcoaches with restaurant facilities of which we give some account elsewhere in this issue.

What has been done so far, however, and what is to be done next week are only the beginning of a whole series of drastic steps to effect further coal economies, which were being considered by the Railway Executive at the time we went to press. If freight services are to be left untouched, as the Executive has announced, further economies can result only from yet further passenger train withdrawals, and these will really inconvenience the travelling public. The lucrative football and other special train traffic of this kind so far has been hardly affected, partly for commercial reasons and very largely because operation of special trains on Saturday afternoons and in other off-peak periods involves a disproportionately small consumption of coal.

With the prevailing shortage of ships, it is hard to see

how Channel or Irish steamship sailings could be reduced without affecting valuable perishable and other freight traffic, though the curtailment of the Heysham-Belfast service is ominous. The history of the conversion in this country of locomotives to burn oil during the coal crisis of 1947, and their subsequent re-conversion, is an unhappy one —through no fault of the railways themselves; so far there seems to be no move to such conversion of British Railways engines, although the Federation of British Industries has prevailed upon the Government to supply costly oil fuel for now unused electric generators, and to large consumers of coal for industrial purposes. In passing, the F.B.I. suggestion that the tonnage of coal in transit on rail is too large and could be reduced, shows disregard of the vagaries of many consignees in clearing wagons. It seems clear that the train cuts in operation and planned will cause little if any redundancy among railwaymen. The 15 per cent. all-round cut in industrial coal allocations must of course affect the railways, not as users, but rather commercially, as carriers of coal and of the commodities which will be restricted in output as a result of reduced coal allocations.

All this, besides the other troubles with which the railways are beset, such as the effect of the defence programme, to which we referred editorially in last week's issue, is no fault of British Railways. Why, in a country which was said by a member of the present Government to be "made of coal," there should be a serious threat to industrial production and all that that implies, and drastic reductions in steam-hauled train services, is a debatable question. It is quite clear however that for the past five years almost every conceivable remedy has been applied, including higher pay and housing for the miners, with no real increase (taking into account the increases in population and industrial consumption) in the amount of coal raised. The miners, who generally enjoy pay and conditions far superior to those of railwaymen, may perhaps be induced to increase their output. But before the crisis is over, there will be much inconvenience to the public and dislocation (or worse) of industry, and from this the railways will be the worst sufferers.

Ulster Transport Authority

THE U.T.A. accounts for the second year to September 30, 1950, show a turnover of £5,640,000 and a trading loss of £213,600, the latter resulting from losses on railways (£323,100), road haulage (£162,400), and hotels and catering. There was a profit on bus operation of £259,300. A comparison with the previous year is misleading, as the N.C.C. Railway and hotels were acquired six months after the other two undertakings (the B.C.D.R. and N.I.R.T.B.) with which the U.T.A. began; this means that only six months' figures were included for the N.C.C. line in the first year's accounts, and these months included the more profitable summer.

During the year, buses operated 35 million miles, with 98 million passenger journeys, and road freight services operated 13 million miles and carried 1·4 million tons of merchandise and 746,000 head of livestock. Passenger train-mileage was 2·1 million, with nearly 10 million passenger journeys; freight train-mileage was 370,000, carrying 657,000 tons of merchandise and 200,000 head of livestock.

The chief causes for the deterioration in the financial position were the inflationary trend in costs; the increased fuel-oil tax and purchase tax on road haulage vehicles; derationing of petrol resulting in greater use of privately-owned lorries and of private cars, with loss to the U.T.A. of both passengers and freight, usually of the more profitable traffic; and a poor tourist season due to bad weather. Remedial measures being taken include publicity and appointment of cross-channel agencies to attract traffic; integration of staff and facilities; elimination of duplicate and uneconomical services; and technical improvements such as fuel economy, use of containers, and mechanical handling of freight. Economies made however tend to be obscured by rising costs.

With rising operating costs, rate and fare reductions are unlikely, and the question arises as to whether an increase is called for immediately. The report states that it is inconceivable that any business required to balance its budget can maintain the quality of, or the prices it charges for, its commodities or services and at the same time meet continuing increases in wages and in the cost of what it has to buy. A review of rates and fares is therefore essential.

Any proposal to close the Belfast-Londonderry (former N.C.C.) main line and such important branches as the Belfast-Bangor (former B.C.D.R.) line, because these may not pay, would immediately raise other matters of principle, although how they were to be kept open if it was considered that the public interest so require whilst not paying their way, raises issues of its own.

South African Railways in 1950

THE increase in all types of traffic was one of the highlights of 1950 for the South African Railways, according to a review of the year's operations by Mr. W. Heckroodt, the General Manager. After a disappointing start, an improvement set in after June, and in November almost every record was broken. Each successive week of that month showed increased earnings, reaching a peak of £1,897,787, and wagon loadings were well above 100,000 a week.

The Truck Distribution Committee, set up in February, 1949, ensured that the best use was made of every wagon, and that all essential transport requirements were met. The increasing demand for covered traffic has meant a corresponding increase in the stock of tarpaulins, an expensive item as tarpaulins now cost £27 apiece, compared with £6 10s. before the war.

Suburban traffic has been under special review. It is being operated at a loss, although in 1949-50 there was an increase of 2,207,815 in suburban journeys. Improvements to stations, particularly Johannesburg and Germiston, additional tracks, a close watch on running times, and the provision of new rolling stock, will remove delays to and overcrowding of suburban trains.

Because of more intensive user, and large orders placed, motive power resources are fairly satisfactory. At the end of March, 1950, the S.A.R. had 2,482 steam engines and 218 electric units in service. The increase over 1948-49 was 278 steam locomotives and 38 electric units. In the last six years, 24,792 wagons have been added, making a net increase, after allowances for scrapping, of 22,937 in the past ten years. Carrying capacity has increased from 1,482,996 tons in 1945 to 2,130,177 tons in 1950. At the end of March last, 116 new coaches have gone into service; the total coaching establishment was previously 5,240.

The handling of goods traffic is being improved. Directional loading, for instance, is now applied wherever possible, enabling transhipment to be reduced. A sum of £20,000 has been set aside for mechanical handling machines, after experiments with two fork-lift trucks at Port Elizabeth. Limited use of palletisation is being considered. At places where the need is acute, platform hauling units and trailers have been introduced.

There has been a significant reduction in claims; the reduction for the whole of the Union for June, July, and August last was 18·2 per cent., compared with last year. Nevertheless, because of compensation payable to persons injured in a train accident and a rise in commodity prices, the administration had to pay £9,982 more, or 32·6 per cent. more, in claims in those months than in the corresponding three months of the previous year. The disposal of claims has been greatly speeded up. At one time in 1948, the office of the System Manager in Johannesburg had in hand 33,000 unsettled claims; there are now only 87.

The need for a railway linking Beit Bridge with West Nicholson in Southern Rhodesia, to relieve the strain on the Mafeking-Bulawayo line, was strongly represented to the recent Central & Southern Africa Transport Conference. It was decided that the matter should be left in abeyance, until the traffic potential of the Mafeking-Bulawayo line had been examined, and the Beit Bridge line

and another line from Bulawayo to Lourenço Marques had been investigated.

During the past year, construction of new lines was concentrated on two—Broodsnyersplaas-Vandyksdrift, and Grootvlei-Redan. Main line improvements made good progress. On the mechanical side shortages of staff and materials were adverse factors, though not so much as previously. Improved workshop organisation and overtime working, however, have enabled heavy repairs to be completed to a much greater number of engines.

Relations between staff and management have been satisfactory, and the conciliation and consultative machinery has worked well. Last year the wage bill totalled 64 per cent. of all revenue, compared with 46 per cent. in 1939-40. The development of training methods to ensure the efficiency of the individual and thus keep down the total numbers of staff has therefore become increasingly essential.

Rhodesian Railway Expansion

DESPITE shortages of resources, materials and labour, the Rhodesia Railways have considerably expanded during the past three to four years. Since April, 1947, 82 locomotives and 2,706 wagons have been put into service, representing increases of 39 and 61 per cent.

Workshops at Bulawayo and Umtali have been expanded at a cost of £106,500 and machinery valued at £114,000 has been installed or ordered. A modern engine shed costing £214,000 is being built at Bulawayo. Mechanical coal handling is being installed at several places. Many goods sheds have been improved and expanded, especially at Salisbury and Bulawayo. Additional depots have been provided, and since 1946 some 93 new private sidings have been constructed. More than 44 miles of track have been laid in traffic yards over the system, and a new goods yard has been built at Lochinvar to serve Salisbury.

At Bulawayo a noteworthy start has been made on a comprehensive plan. The approach line from the south has been deviated over 3½ miles, involving the excavation of more than 257,000 cu. yd. of earth and rock. Large new industrial areas will shortly be opened, fully served with railway facilities. Elsewhere, grading and curvature is being improved to increase line capacity, and several deviations have been carried out. A major deviation in progress involves the complete realignment of approximately 14 miles and a new bridge of four spans totalling 361 ft. in connection with the Hunyani Poort Dam near Salisbury.

To assist in these and other similar works (including a realignment over 46 miles through difficult country between Wankie and Dett), a large fleet of earth-moving equipment has been built up. Other trackwork includes 196 miles re-railed, 302 miles re-sleepered, and 268 miles ballasted, with bridge strengthening and renewals. Eight new stations have been opened and 39 new crossing places provided to increase sectional capacity. Sidings at many stations have been increased in length.

Centralised train control of the latest design is being installed between Bulawayo and Gwelo (about 100 miles). Mechanical and colour-light signalling has been installed at some stations and sidings, and mechanical point indicators have been installed over 187 miles between Bulawayo and Inyantue. Telegraph and telephone communications have been improved over long distances, involving the erection of 1,200 miles of new copper wire. New telephone exchanges have been provided and teleprinters are now working between Salisbury and Bulawayo (about 300 miles) and Bulawayo and Johannesburg (over 500 miles).

European staff has increased by 36 per cent. from 4,992 to 6,781 and non-Europeans by 15 per cent. from 14,734 to 16,916, but instability and wastages still occur on a large scale. There is a recruiting campaign in the United Kingdom. The paybill has increased from £3,174,115 to £5,242,696. New houses built for staff total 570, plus 670 single quarters and rest rooms, involving complete townships at some places, complete with roads, sewerage, electricity, and water supplies.

Kowloon-Canton Railway

"IN the light of the political events which have taken place covering the period," states the report for the year ended March 31, 1950, of the Kowloon-Canton Railway, "it would have taken an extremely bold person to have prophesied that the British Section of the railway would again break all previous records in the number of passengers carried and revenue earned. Yet such has been the case." The report sketches the effects on the railway of the Communist victory, including the rapid conclusion of a working agreement with the new Chinese authorities in November, 1949. The passenger figures over this short line of 36 km. are an all-time record, even if largely the result of the abnormal political situation.

The following are some of the principal results:—

	1948-49	1949-50
	Thousands	
Goods tonnage conveyed	80	104
Passenger journeys	3,879	5,264
	$ H.K. thousands	
Goods receipts	310	761
Passenger receipts	6,195	6,461
Gross railway receipts	7,076	7,783
Railway operating expenditure	3,480	3,555
Net operating revenue	3,596	4,228

The report mentions through working of goods trains between Kowloon and Shanghai as from March, 1950, for the first time in the history of the railway, and adds that, from an operating point of view, there are no reasons why this traffic should not develop under peaceful conditions provided competitive rates with sea and river transport are charged. Many military specials were run.

Despite unsettled political conditions, the year saw steady progress in restoration of the railway to its pre-war condition, mainly in way and works; considerable improvements were effected in track, sidings, goods terminal, and passenger handling facilities.

Minneapolis & St. Louis Railway

UNDER the odd title of "Milestones on the Prairie," * Mr. Frank P. Donovan has written the story of an odd railway, the Minneapolis & St. Louis. This name is deceptive. The railway ends far north of St. Louis. It is a bridge line between the northwestern railways serving Minneapolis and 13 eastern railways exchanging traffic at Peoria, in Illinois. Diesel-hauled "time freights" cover the 476 miles between these junctions in 17 hr. 55 min., making six stops to attach or detach wagons. Some of Mr. Donovan's crispest pages describe a trip in the caboose of express freight train 20. The run was made on time for the railway has to justify its slogan—

"Between east and west
M. & St. L. Peoria gateway best."

No slogan could save the M. & St. L. from passing in 1923 into a receivership lasting for 20 years—a record spell for a Class 1 railway. The vigorous policy of Mr. Lucian C. Sprague, who was appointed receiver in 1935, made the property pay its way. The second world war helped the railway to increase freight carryings and perhaps Mr. Donovan goes too far in claiming that it is now "one of the most efficient, well-managed and lucrative of properties." Its scope is limited to freight train working over 1,400 route miles and to the running of 2 passenger trains a day over half that mileage. In 1949 its operating ratio was 81·6 per cent. and its railway operating income was $1,356,000.

In the same region of the States, the Chicago Great Western, working only 70 more miles, had an operating ratio of 75 per cent. and a railway operating income of $2,666,000. C.G.W. traffic statistics put the M. & St.L. results in the shade. But without enthusiasm for his subject, Mr. Donovan could not have written a volume of 300 pages about a minor American railway. His book is easy to read,—printing, illustrations and maps being very clear.

* "Milestones on the Prairie." By Frank P. Donovan, Jr. New York, U.S.A.: Simmons-Boardman Publishing Company, 30, Church Street. 8½ in. × 5½ in. 310 pp. Illustrated. Price $4.50.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

Train Service Cuts

January 16

SIR,—No doubt thanks to the present fuel situation some curtailment of train services became inevitable. It is with dismay, however, that I note that some services are to be suspended entirely, surely an action of doubtful legal validity?

It seems unfortunate that services should be suspended, even if only temporarily, just when British Railways are offering prizes for ideas for attracting more traffic! It is obvious there is a risk that passengers forced on to the roads by the present proposals may take a lot of tempting back on to the railways.

At Eastleigh there is in store a number of oil-burning locomotives left over from 1947. A start recently has been made on breaking up some of these ill-fated locomotives. It seems a pity that some use cannot be made of these locomotives now, especially as the fuel oil situation is improving slightly as more refineries come into operation in this country.

As a long-term measure for saving fuel I suggest better running shed facilities and maintenance, better coal, better timekeeping, and thus a tightening up of turnover times. Many or your readers have no doubt been interested in the articles and correspondence on the Norfolk & Western Railway; it is of course on these points that this line scores. I doubt if its locomotives are more efficient than our best types: they are run under better conditions.

Yours faithfully,

J. B. LATHAM

18, Wheatsheaf Close, Woking

Economics of Long-Distance Electrification

January 29

SIR,—In your December 1 issue Mr. Stephen A. Vincze gives some interesting information on the costs and performances of long-distance electrifications with high-voltage direct-current and single-phase current.

I take the liberty of mentioning that table 4 contains an error. A section of 0,403 in.^{2} for the return feeders is indicated, whereas the exact figure should certainly be 0,201 in.^{2}, to obtain the total copper section of 0,403 in.^{2}

In Switzerland all electrification with single-phase current at 16⅔ cycles is carried out without return feeders and the total copper section is 0,332 in.^{2} (214 mm^2) for a double track line and comprises only one contact line of 0,166 in.^{2} (107 mm^2) for each track. On single line tracks, an auxiliary line of 0,078-0,109 in.^{2} (50-70 mm^2) exists besides the contact line of 0,132-0,166 in.^{2} (85-107 mm^2). This is less for increasing the conductivity than to enable sections of the contact line to be put out of service. The same arrangement will be adopted for electrification with single-phase current at 50 cycles. Thus an important reduction of the costs per 1,000 miles of overhead contact line indicated in table 4 in comparison with corresponding costs for d.c., will occur.

Table 8 gives figures for traction motors referring to the different current systems which do not correspond to actuality. The output of the motors which can be accommodated with the individual axle drive with wheel dia. of 4,12-4,62 ft. (1,250-1,400 mm.) and for normal track is of about 1,000 h.p. for all current systems. For motors, as built in Switzerland, table 8 has to be modified: —

	1,500 V. d.c.	16⅔ cycles a.c.	50 cycles a.c.	
One-hour rating for each driving axle, h.p. ...	1,050	1,000	720	1,000
Weight of motor, lb. ...	8,600	8,820	6,500	8,820
(kg.)	(3,900)	(4,000)	(2,950)	(4,000)
Specific weight, lb./h.p.	8·2	8·82	9·05	8·82
(kg./h.p.)	(3·7)	(4)	(4·1)	(4)
Motors for	S.N.C.F. Bo-Bo Oerlikon	Loetschberg Bo-Bo Swiss Federal Co-Co	S.N.C.F. Co-Co Oerlikon	Bo-Bo and Co-Co design Oerlikon
In service	1952	1944/52	1950	

When comparing the specific weights it is necessary to consider that d.c. motors generally allow the use of the one-hour output at relatively lower speeds while single-phase a.c. motors give a higher tractive effort at greater speeds, especially when single-phase 50 cycles current is used.

The table and especially the figures based on the results gained with the 50 cycles motors of the S.N.C.F. Co-Co locomotive shows that it is possible to build locomotives for single-phase 50 cycles with performances which can be compared with those of other current systems.

Yours faithfully,

L. H. LEYVRAZ

Ateliers de Construction Oerlikon, Zurich 50

Railway Charges, Efficiency, and Integration

January 20

SIR,—In answer to the points Mr. J. S. Boumphrey makes in your issue of January 19, I understand that Sir William Wood in his paper set out to consider a number of related factors, of which efficiency was one. He certainly said that there was probably a link between "good" efficiency figures and inferior services, and surely in stating that a volume of traffic 50 per cent. greater in 1944 than in 1938 was carried for substantially fewer engine hours, he was dealing with operating efficiency, not costs.

When I said that railway services in 1944 probably represented the greatest inferiority in railway history, I was stating a fact without in any way reflecting on the magnificent work done by the railway staff. I have never wavered a fraction from my fervent belief that the job could have been done much more efficiently and economically, and with much less strain on the railway staff, if the railway managements, in the years between the wars had incorporated the road vehicle to the maximum extent with railway operations, on the lines I have long advocated. That is not a criticism of the railway staff, but of obscurantist management by a generation now fast disappearing from the scene.

Yours faithfully,

FREDERICK SMITH

65, Hallowell Road, Northwood

Southern Region Pacifics

January 1

SIR,—It should certainly help readers to have before them the excellent diagram sent by Mr. Lawrence and reproduced in your December 22 issue. However, in common with many other readers, I am not an experienced, qualified locomotive engineer, nor am I biased. But whether or not readers possess the qualifications deemed necessary by Mr. Lawrence, they can still only form "opinions," to use Mr. Lawrence's own word. Many are the opinions which have been expressed on Mr. Bulleid's valve gear since it was introduced, but opinions are not sufficient.

I would not like to say whether Mr. Bulleid's valve gear is good or not, but it is only fair to ask that opinions should be supported by facts and figures. Looking at Mr. Lawrence's diagram, it appears to me that any error due to chain slack is reduced sevenfold by the combination lever before being multiplied threefold by the valve rocker, and therefore the error in the valve events is three-sevenths of that due to chain slack.

Mr. Pink in his letter very fairly says that Mr. Lawrence's original article stated that facts as to the technical design and construction of the valve gear of the S.R. Pacifics, but to say that he did not indulge in mere hearsay is not exactly true. Mr. Lawrence reported some opinions on the engines expressed by certain railwaymen friends. Further, he promised to "spill the beans" about the boilers of these

locomotives if any further proof was needed of their inefficiency.

Mr. Pink seems to have missed my point when he says that I was "unwittingly admitting the inability of the design to operate successfully and efficiently" when I wrote of the greater strain involved on stopping trains. The point is that on stopping trains it is more than ever important that the standard of driving and maintenance should be high. Hard work and indifferent driving and maintenance will soon send a locomotive to its grave. Under normal traffic conditions few trains on the Eastern Section could really be described as anything other than stopping trains, and therefore I cannot agree with Mr. Pink's claim that "West Country" and "Battle of Britain" Pacifics are only occasionally used on stopping trains.

In his last paragraph Mr. Pink gives us the benefit of his own view, not only on the Pacifics but on the "Leader" Class as well, about which even less is known. We all want to know more about both classes, but please let us deal with one complicated locomotive at a time.

Could the officers concerned on the Railway Executive or Southern Region draw up a table showing comparable availability figures for the Southern Region overall, "Merchant Navy," "West Country" and "Battle of Britain" classes, and also, if possible, overall availability figures for other Regions and locomotive types?

There must be thousands interested in railways, professionally and otherwise, who would welcome the appearance of such a table. The table would then kill for all time rumours, good and bad, about the availability of the Southern Region Pacifics.

Yours faithfully,
P. E. SAXBY

64, Marville Road, S.W.6

Accidents at Level Crossings

December 29

SIR,—It is quite a common practice in the U.S.A. for locally hand-worked points to be electrically controlled from the appropriate "tower" or C.T.C. machine. It should not be difficult to fit such an electric lock to outlying crossing gates and so control them from a signalbox, a release from which would be necessary to open the gates. They could be applied to attended or unattended crossings.

Against the expense can be set the saving in time and worry by both the railway and general public concerned, the reduction of material damage, and less loss of life.

The locks could be held on by the presence of an approaching train within at least full braking distance. The position of the gates could be repeated in the boxes on either side, or at sufficient distance to give ample warning to drivers.

At crossings likely to change their character, such a lock could be fitted and removed when the reduction of traffic no longer justified its use.

Yours faithfully,
COURTENAY BARRY

The Old Manor, Salisbury

Pre- and Post-War Excursion Fares

January 2

SIR,—I should like to add to the remarks of your correspondents, J. N. Faulkner and L. Lawrence, in your December 22, 1950, issue, on the subject of excursion fares and facilities. Here at Chelmsford, we are ten miles beyond the London Transport boundary. Since October, the fare charged for the occasional half-day excursions to and from London has been increased from 4s. to 4s. 6d., and the Saturday evening excursion fare of 3s. 3d. has been withdrawn, without benefit from any of the compensating advantages of the London Charges Scheme.

No day return tickets are issued from here to any seaside resort, and to take my family to Clacton for the day, mid-week, last summer, I had to pay monthly return fares. For this, we all stood, both ways, in the corridors of trains of only six coaches, including buffet car. Later, I found that passengers from London had paid less in fares than I had, for nearly double the mileage. Coastal excursions from Chelmsford last summer were virtually confined to Clacton, Frinton, Walton and Dovercourt, with no facilities for visiting any other East Anglian resort. Norwich has been served about once a month throughout the year, but the fare, 10s. 6d., is exactly double pre-war.

Late one evening last year in the South London suburbs I paid 2s. 7d. for a return journey totalling 14¼ miles. When I asked the ticket collector at my destination whether there might not have been a cheaper fare, he answered: "No day return or other cheap ticket of any description is available to or from any Southern Region station in the London area." When I suggested that I had seen such facilities advertised in the press, I was told that I shouldn't believe anything that I read in the papers. A little later, I wanted to visit a Kent Coast resort for a day, and wrote to the nearest Southern Region station for particulars of facilities on Saturdays or Sundays. The reply was that there was nothing cheaper than the monthly return. I made the whole journey by bus. On arrival, I discovered that actually "Springtime" day returns were being issued, which would have enabled me to have done the whole journey at less cost than by bus and in much less time.

A feature of the London Charges Scheme is the lack of information on new fares. Apart from a hand-written poster quoting half-a-dozen specimen day return fares, exhibited at a few Southern Region stations, no information on day return or early-journey fares is displayed at any London station of the Railway Executive which I have used in the last three months. As the new fares are supposed to be standard, they should be included in the fares lists exhibited at all stations. Alternatively, the information should be available in posters, leaflets, and booklets as it used to be, for all cheap ticket facilities. The present lack of information and the new London Transport practice of omitting all station names from rail tickets imply a policy of keeping passengers in ignorance of what the correct fares should be.

Yours faithfully,
I. S. FORBES

7, Oakley Avenue, Chelmsford

U.S. Diesel Locomotive Performance

January 25

SIR,—In your December 29, 1950, issue, Mr. Irving Shelton's letter refers to data indicating very low diesel locomotive mileage per engine failure for U.S. railroads and remarks that no U.S. railway publication has so far presented such all-important diesel performance data.

Many data covering all phases of diesel locomotive performance (as well as steam and electric) are contained in a U.S. Government publication, "Study of Railroad Motive Power," issued by the Interstate Commerce Commission, Washington, D.C., in May, 1950. The study is identified as File No. 66-A-11, Statement No. 5025, and consists of 298 pages of analysis of cost and other data based on field study and collection of detailed records of steam and diesel locomotives on more than 50 railways in the U.S.A.

The following figures are extracted from the report and give diesel locomotive-miles per locomotive failure for the different railroads for which data were available:—

Railway	Passenger	Freight	All types
1	—	—	153,616
2	59,870	102,753	—
3	—	—	652,208
4	755,982	824,422	—
5	—	—	23,056
6	60,212	—	—
7	73,708	48,610	—
8	—	34,720	—
9	—	123,046	—
10	232,558	32,680	—
11	—	—	(Yard) 45,568
12	—	—	3,748

The report remarks that the records are not on a uniform basis and indicates reasons for some of the low figures.

Yours faithfully,
B. S. CAIN,
Assistant Engineer,
Locomotive Division

General Electric Company, Erie 2, Pa., U.S.A.

THE SCRAP HEAP

The Last Straw

A railway employee was gaoled for two months with £10 costs recently for stealing five tea towels worth 25s. at Kings Cross goods depot. The accused was stopped while leaving the goods depot because he had a lump in the middle of his back. The towels were found tied round his waist with a piece of string.—*From "The Star."*

Festival Water Transport

More than 10,000 people may be water-borne on the Thames at peak hours during the Festival of Britain. Sir Henry Digby-Beste, Executive Officer of the Thames Passenger Transport Committee, has stated that it is planned to divide the water services into four main groups. These will take the form, first, of an augmented water-bus service covering every pier from Putney to Greenwich; second, a twin service between Hammersmith and Battersea Park, and from Greenwich to the South Bank site; third, a shuttle service from South Bank to the Festival Gardens; and fourth, an extension of the pleasure boat services.

Galley Queues

The latest thing to beguile the trip from the Continent to meat-hungry Britain is the mid-Channel cookery service. Its organisers are the chefs of British Railways steamers.

Before embarking, travellers buy large joints of meat, usually loins of pork, legs of lamb, or sirloins of beef. This raw meat cannot be landed uncooked because our Government think various diseases might be imported with it. So the chefs come to the rescue.

The heavily-laden travellers queue up outside the galley and get their joints roasted or part-cooked in the ship's ovens. It is all done free of charge.

A British Railways spokesmen said: "This service started on its own. Passengers arriving on board with raw meat without knowing the restrictions looked so harassed that the chefs took pity on them."—*"Touchstone" in the "Daily Mail."*

Vindicated

Mr. S. W. Jesper, Public Relations & Publicity Officer, North Eastern Region, British Railways, has been investigating a complaint by a doctor that he had been waiting four weeks for British Railways to deliver a new car chassis from Coventry to his home near York.

Actually, the chassis took nine days (not 21 as the doctor said) to travel from Coventry to York and was delivered to a York garage firm on December 15. Mr. Jesper adds that the railways are not proud of this performance, but that heavy snow and bad weather a few days earlier had caused considerable congestion.

On January 3, as a result of an inquiry from the doctor, the railways staff found that the chassis was still at the York garage. "The garage people admitted that it should have been forwarded, but they had forgotten about it," says Mr. Jesper. "As a result of our intervention the garage handed it to us on the afternoon of January 3 and it was delivered on January 5."

These facts, as the doctor agrees, give the affair quite a different complexion. British Railways come in for a good deal of criticism, but we must not be unfair to them. I am glad to know that in this case a public service set a private firm a good example.—*"Northerner II" in "The Yorkshire Post."*

Camping Holiday Bookings

The six camping holiday flats of the North Eastern Region of British Railways at Clifton Moor, Akeld, Kirknewton, Castle Howard, Middleton-in-Teesdale, and Hampsthwaite have already produced 208 enquiries and 70 bookings.

There are 96 camping holiday weeks available during the season May 26 to September 15, and the heaviest bookings are during July and August, although six bookings have also been made outside the normal season.

The flat at Hampsthwaite is being newly opened this year and the opening of others at recently closed stations is being considered.

Road-Rail Haulage in 1912

The haulage of railway locomotives by road to the South Bank Exhibition site reminds a correspondent of the delivery of two four-wheel standard-gauge carriages to the Jersey Eastern Railway in 1912.

Supplied by the Glasgow Rolling Stock Company the vehicles, each about 30 ft. long, arrived complete, and were craned off a steamer at the Albert Pier. They were then hauled, one at a time, on their own wheels by a steam roller for the distance of about half a mile to the then existing J.E.R. terminus at Snow Hill.

These were the days of soft-surface roads and the railway flanged wheels appeared to do no damage. A gang of men helped the rigid wheelbase coaches around awkward corners.

Farewell London

"It looks as though it's going to be rather difficult to get to London," remarked Alice.

"A very good thing, too," said the Red Queen promptly. "There's far too much gadding about to Euston and St. Pancras; all these cuts in train services will encourage people to stay at home and mind their own business."

"They certainly will," agreed Alice, "if they can't get into the remaining trains."

"They might go by bus," suggested Alice.

"Then I hope they'll be even more uncomfortable," said the Red Queen grimly, "If I'd my way I wouldn't let anybody into London without a passport, visa, and travel permit."

"Would that be a good thing?" inquired Alice.

"Of course it would, child! For years people have been talking about the dominating influence of London on national life and demanding devolution and all that. Well, now they're going to get it . . ."

"Dear me," said Alice. "And I thought it was only coal that was concerned."

"Think again," said the Red Queen sternly.—*From the "Miscellany" column in "The Manchester Guardian."*

Railways Take Dutchmen to Olympia

British Railways, Eastern Region, working in conjunction with the Zeeland Steamship Company, brought 1,000 members of the Van Leer factory, Holland, to the National Packaging Exhibition at Olympia. On February 2, nearly 250 passengers left by the Zeeland Steamship day boat, spending the night at Parkeston Quay, and 250 crossed from the Hook of Holland on the *Amsterdam*. A further 260 travelled to Harwich on the *Oranje Nassau*. On February 3 two special trains conveyed these visitors from Harwich Parkeston Quay direct to Kensington Olympia. On February 4, yet another party, also from the Van Leer factory, left the Hook of Holland for Olympia.

Rule "Britannia"

(*No. 70000 British Railways' first standard locomotive*)

Hail, thou latest Railway Queen,
In thy sleek, enamelled sheen!
"Castle," "Kings," "Princesses"—all
At long last before thee fall,
Yet, permit an old man's fear
For thy forebears, loved and dear—
He will cherish to the last
All those darlings of the past.

Shades of bygone C.M.E.s,
Watching o'er the mysteries
Of thine agonised creation,
Must have felt much perturbation,
As ideas for which they fought,
Now accounted things of naught,
Join their superannuation,
Victims of elimination.

Wilt thou take the strain and stress
Of the "Capitals Express,"
Or, maybe, cast in thy lot
With the rival "Royal Scot"?
Which way wilt thou favour most
To the far Atlantic Coast.
And which boat-train will prevail—
Dover? Harwich? "Irish Mail"?

Blow the bugles! Beat the drums!
Standardised perfection comes
And I glory in thy name,
For t'would be a "crowning" shame
To condemn thy royalty
To the dark obscurity
Of numerical extinction,
Yet the mark of true distinction
For an era just begun
Surely should be "Number One"!

A. B.

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

INDIA

B.N.R. Earnings

The annual report for the year ended March 31, 1950, recently published by the Bengal-Nagpur Railway administration, shows a record figure for gross earnings, namely Rs 27·56 crores (£20,670,000). Net earnings amounted to Rs 3·92 crores (£2,940,000).

B.N.R. Coalfields Branch

A final location survey for a new 22-mile branch line from Champa to Korba in the coalfields area has been sanctioned by the Ministry of Railways. The survey is being carried out by the B.N.R. and it is expected that construction will follow.

Suggestions from Staff and Public

To ensure prompt and expert scrutiny of numerous inventions and suggestions put forward by the public and by railway employees for the improvement of railway operation, a Standing Screening Committee (Inventions & Suggestions) is being set up at the headquarters of each Indian railway. These committees will consist of experienced technical officers and will meet once a month. If considered reasonable, inventions and suggestions will be permitted to be demonstrated or explained personally by the inventor, or proposer. Members of the public wishing to put forward suggestions are asked to get in touch with the General Manager of the railway serving the region in which they live.

BURMA

Pegu-Moulmein Branch

With the liberation of the areas between Waw and Theinzeik on the Pegu-Moulmein branch, arrangements were put in hand to re-open the section. Track has been restored to Waw on one side of Sittang, and to Mokpalin on the other side, with the exception of Hninpale Bridge which requires major repairs.

Gokteik Viaduct

Delivery of the required steel at Gokteik Viaduct has been made possible by shipping it up from Rangoon to Mandalay by the Inland Water Transport Board. The work of reconstructing the last remaining trestle is now progressing well, and it is hoped that the repair of the bridge will be completed by July, 1951.

Freight Traffic

During December 32,742 tons of export rice were despatched by rail from stations on the Prome and Toungoo sections to Rangoon. The State Timber Extraction Board and the State Mineral Marketing Board sent by rail 1,543 tons of logs from Toungoo to Rangoon and 69 tons of lead ore from Heho to Tatkon respectively.

Although the demand for wagons has increased, all requirements were met by careful and economical distribution. In South Burma the trend of traffic is southwards, and empties have to be sent north to clear southward traffic. Rice, paddy, sugar cane, timber, bricks, and stone are the principal commodities moving southwards. In North Burma area, however, the traffic is almost balanced, except on the Mu Valley section.

UNITED STATES

Platform Lift-bridges at Goods Station

At Atlanta, on the Southern Railway system, the large goods station has three island platforms, served by groups of three, two and three tracks. To facilitate the circulation of less-than-car-load goods, these platforms are connected by three steel lift bridges near their centres, and a fourth connects the goods shed with the nearest platform. These bridges are raised at night to allow shunting of wagons out and in, about 100 having to be placed for loading next day. The bridges spanning three tracks are 35 ft. long and those over two roads are 23 ft., and in daytime they are flush with the platforms and goods shed floor. When raised they are 18 ft. clear above rail level.

Each bridge is raised and lowered by cables and a 7½-h.p. electric motor, controlled by push-button up and down switches and a limit switch prevents over-raising. Between tracks, metal pedestals on concrete foundations give support to the bridges which are fitted with non-slip floors.

CANADA

Ontario Northland Earnings

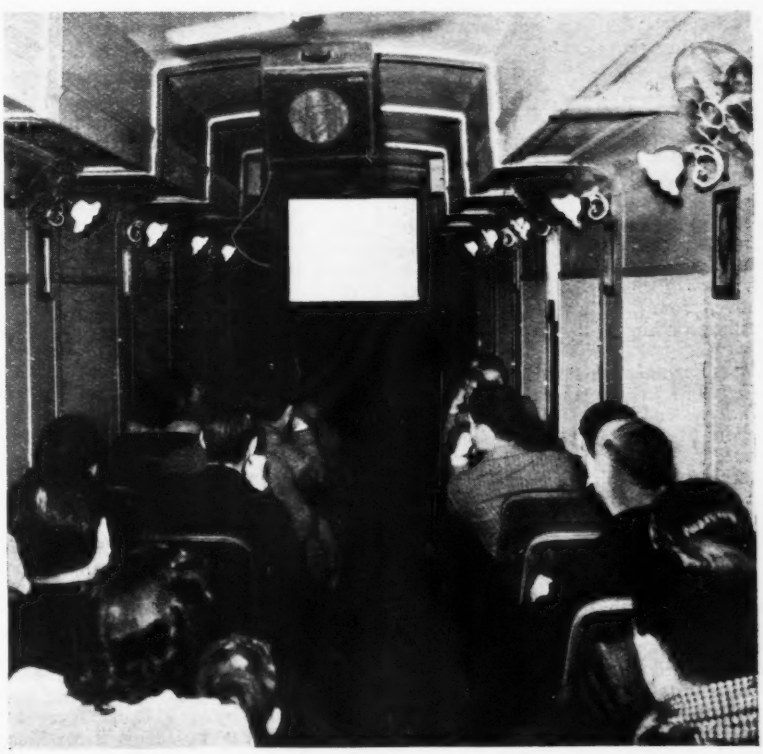
The gross earnings of the Ontario Northland Railway in 1950 may set a record. The general manager has stated that he expects them to be about $12,000,000. The highest previous total was about $11,000,000, in both 1948 and 1949.

He also said that the dieselisation programme of the railway calling for complete conversion from steam to diesels by 1955 is expected to be half completed within a year. A new block signal system is to be put into operation almost immediately between Englehart and Swastika.

ARGENTINA

Cinema Coach

For some time the General Belgrano Railway has been carrying out trials of different types of cinema projectors with a view to providing film shows on some of its principal trains. A cinema coach has been placed in regular service on the Buenos Aires-Córdoba-Tucumán service of this line and is the first of



Cinema coach on General Belgrano Railway, Argentina

its kind in South America to figure permanently in the timetables.

Three shows are given on each journey, consisting of newsreels, cartoons, documentary films, and a full-length feature chosen from the principal current Argentine productions. The coach is of metallic construction and contains accommodation for 47 spectators in comfortable tip-up seats arranged to give an uninterrupted view of the screen. Ventilation and sound-proofing have been satisfactorily solved. The projector is of the latest American type, using fireproof 16 mm. films.

IRELAND

Self-Weighing Tenders

Self-weighing tenders are being introduced by Coras Iompair Eireann. Coal from Britain is becoming scarcer and dearer, making the problem one of vital importance for the maintenance of Irish railways.

One of the new tenders has been completed at Inchicore works, another is almost ready, and a third has been begun. It is reckoned that six in all will suffice over a period to give C.I.E. the data needed. First completed is a 3,300 gal. tender for general use, the second is for the Woolwich-type engines, and the third for the "623" class.

The C.I.E. self-weighing tenders are conversions from ordinary types, and follow conventional practice. Inside an ordinary tender is mounted a floating "box," set on long arms, which act as weigh-beams. A screw device enables the engineman at any time to raise the box and set it on the weigh beam arms, when a gauge indicates the weight of coal in the tender box at that moment.

FRANCE

Line Blocked by Avalanches

The electric metre-gauge railway connecting Chamonix with Vallorcine on the Swiss frontier, was blocked at various points between Les Tines and Vallorcine, by the recent avalanches in the Alps. Les Tines is five miles east of Chamonix.

Rail Deliveries to China Denied

Protests by the United States against pending sales to China of 139,000 tons of steel rails by private French manufacturers and that the French Government has refused to interfege were discussed recently in the French press. It was stated on behalf of the steelworks concerned that no steel rails had been delivered to China in 1950. Since the original orders were placed, the French Government had taken strict measures to control all exports of steel because of shortages and the need of steel for the French rearmament plans.

AUSTRIA

Serious Coal Shortage

Passenger trains on the Federal Railways were cut by 30 per cent. on January 29, because of the cessation of coal imports from Poland. The cuts will last until February 12 at the earliest. Attempts are being made to use Austrian brown coal in lieu of Polish coal; the former, however, is not so efficient and is generally unsuitable for locomotives. The zones most affected are the British and Russian, in which are the smallest mileages of electrified line.

Lines Blocked by Snow

Traffic in the west and south was dislocated during the weekend beginning January 20, because of heavy falls of snow in some regions and avalanches in others. A locomotive was derailed by an avalanche on the Arlberg line between Langen, at the western end of the Arlberg Tunnel, and Klösterle, about 1¼ mile further west, and all services on the line had to be suspended. Also, various other lines in the Tirol had to be closed to traffic either because of being blocked by avalanches or as a precautionary measure. The "Arlberg Express" is being diverted until the snow conditions improve; between Salzburg and Feldkirch, 11¾ miles from the Swiss frontier, it now runs *via* Munich, Lindau, and Bregenz. The latter route is 262¼ miles long, as against 257 miles *via* Innsbruck.

DENMARK

Lines Doubled and Closed

Two sections of the Randers-Aalborg line were doubled in 1950, and the doubling of the whole line is expected to be completed this year. The Roskilde-Lejre line is also being doubled.

The Dalmose-Skelskor line has been closed to passenger traffic. That between Soro and Vedde, from which passenger services were withdrawn in 1933, has now been closed to all traffic.

Publications Received

Railway Track Maintenance. — An illustrated brochure describing the John Bull petrol-driven portable drill and its uses in railway track maintenance has been issued by the Howard Pneumatic Engineering Co. Ltd., Eastbourne, including descriptive matter relating to the uses of this type of drill as a prime mover for rail sawing, grinding, and drilling on site.

The Formulation of Anti-corrosive Compositions for Ships' Bottoms and Underwater Service on Steel; the first report of Joint Technical Panel N/P2, issued by the British Iron and Steel Research Association, 11, Park Lane, London, W.1. 11 in. x 9½ in. Paper cover, 26 pp. Illustrated. Free of charge. This report publishes the detailed results of tests made on 68 specially prepared anti-corrosive compositions, variations of mixtures of basic lead sulphate, white lead, aluminium powder, Burntisland red and barytes, bound with various media. The most promising composition in performance and general applicability was found to be No. 655, consisting of 2 parts of basic lead sulphate with 1 part of each of aluminium powder, barytes and Burntisland red bound in a modified phenol-formaldehyde/stand oil/tung oil medium, the ratios of the oils being 1 : 1. This composition is being compared with No. 185 having the same pigmentation contents bound in a plain modified phenol-formaldehyde/stand oil medium in a new service test. The various previous service tests on bottom compositions are also summarised. Though primarily intended for the protection of ships' bottoms, these compositions might also be used for underwater bridge, quay, pier and other underwater steelwork.

Tangye Industrial Heaters.—This booklet, No. 684, published by Tangyes Limited, Birmingham, describes and illustrates the various designs of industrial heaters made by this firm. Included are particulars regarding methods of installation and types of fuel recommended. Lists of users and spare parts are also given.

Standardised Switchgear.—Much useful information regarding the standarisation of basic switchgear units for heavy industries is contained in booklet No. 41010 issued by the Brush Electrical Engineering Co Ltd. This is an illustrated publication, showing diagrammatically how basic designs can be employed. Switchboard ordering is simplified by quoting basic unit numbers. Also included are general specifications for metalclad switchgear and basic units and a standard ratings and dimensions table.

Rapier Fork Lift Trucks.—An illustrated leaflet has been published by Ransomes & Rapier Limited, Waterside Works, Ipswich, containing details of petrol or diesel engine propelled fork lift trucks manufactured by them. Capacities and principal dimensions with shipping particulars of each type manufactured are also contained in the leaflet.

Electric Tools and Production Equipment.—A brochure relating to bench and flexibles shaft driven machines has been published by E. C. Hopkins, Grosvenor Street West, Birmingham 16. The publication, which is illustrated, contains general design information and specifications of bench tool grinders, polishing machines and twist drill grinders, all of which can be fitted with pedestal bases if required. Also included are details of accessories for flexible shaft machines including rotary milling cutters, rasps, abrasive discs, wire brushes and maps, all illustrated.

Electro-Mechanical Tamping on British Railways

A method of consolidating permanent-way ballast having plain line or crossing application

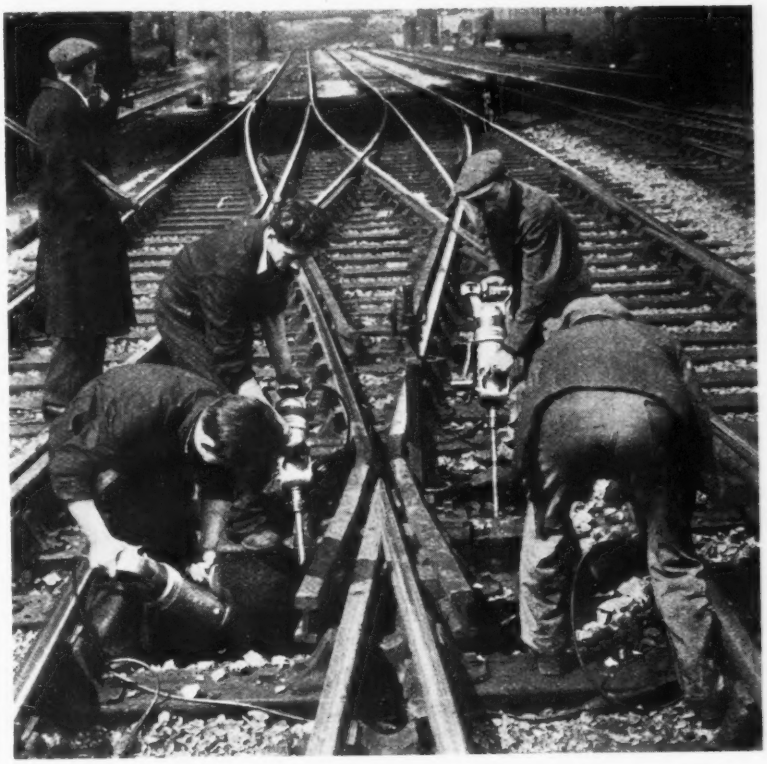
VARIOUS experiments have been undertaken, making use of mechanical methods, for consolidating permanent way ballast. In 1946, experiments were carried out, using a modified "D" type Kango electric hammer manufactured by Kango Electric Hammers Limited, South Wimbledon, S.W.19. This design, while giving good results on plain line work, was not powerful enough when employed on crossings.

This firm therefore evolved a new hammer, the "E" type, which in its prototype form was adapted for mechanical tamping, and was used for further tests on the Western Region of British Railways. Extensive tests were carried out, over a period of 12 months, during which minor problems were solved. The Western Region has now several batteries in use, operated in some cases from the mains supply, 200/250 V. a.c.-d.c., and otherwise from a portable generator 110 V. a.c.

Application

The tamping tool has a wedge-shaped head, 3 in. × 2 in. × 1 in., with a 30 deg. taper down to the working face, 3 in. × ½ in.; the working face is heat-treated. The tool is inserted into the end of an alloy steel shaft, about 18 in. overall length, having a crank of 30 deg., near the end, into which the tamping tool is fitted. The amount of crank is so designed that the entire blow of the hammer is directed on the ballast, by which action the ballast below the sleeper is consolidated; it also facilitates the full blow being received in the desired area on crossing maintenance. Straight shanks are used where the work lends itself to a direct blow.

Care must be taken that too large a wedge is not used as this may decrease the efficiency of the electro-mechanical tamper. The track is first lifted by a Kenhi MK1 hydraulic jack, the old ballast being removed to a depth of between ½ in. to 1¼ in.; in some instances the ballast is screened. The bed of the track is then forked and levelled, after which the screened ballast is filled in under the sleepers and the track lowered.



Four electro-mechanical tampers in use on a crossing simultaneously

The electro-mechanical tampers are then put into operation, one on each side at the end of the sleeper near the chairs carrying the rails, and the ballast is consolidated. Obviously, the longer the tamper is used, the denser will the consolidation become; since the head of the hydraulic jack is below rail level during lifting operations traffic is uninterrupted. A similar method is carried out on crossing maintenance.

The "E" type tamper is sufficiently powerful to lift plain line or crossing from its *in situ* position should this be necessary. If it is desired to lift a section of the track in its entirety a longer application of the tampers will achieve this aim.

BRITISH INDUSTRIES FAIR.—First consignments of the B.I.F. advance catalogue have been flown overseas to assist foreign buyers in planning their visits. Within the next two weeks a further 15,000 copies of the catalogue, each volume of which runs to more than 1,000 pages, will be dispatched to United Kingdom offices in 63 countries for distribution to prospective visitors. There will be a special distribution for the North American markets as was the case last year. A final edition of 50,000 copies will be published on the opening day and every visiting buyer from overseas will receive a copy. This year, advance copies and final editions will have an alphabetical index of exhibits in French, Spanish, Italian, Portuguese, German, Danish, Swedish, and Dutch. The B.I.F. will run at Earls Court and Olympia and at Castle Bromwich from April 30 to May 11.

DEAN & DAWSON LIMITED: MIDDLESBROUGH OFFICE.—Dean & Dawson Limited has transferred its office in Middlesbrough to 49, Corporation Road. The telephone number remains at Middlesbrough 3430.

LYONS INTERNATIONAL FAIR.—Exhibits at the Lyons International Fair, to be held from March 31 to April 9, will comprise a wide variety of industrial products, including, from Great Britain, road motor vehicles, tractors, agricultural machinery, domestic appliances and vitamin products. The British tourist industry will be represented by a group exhibit. Travellers to the fair from the United Kingdom may obtain a 25 per cent. fare reduction over the French National Railways. The representatives in London are R. Brandon & Partners, Limited, 47, Albemarle Street, London, W.1.

MILD-STEEL BOILER AND SUPERHEATER TUBES.—This standard (B.S. 1678:1950) forms one of a series of British Standards for boiler and superheater tubes and covers cold-drawn electrically welded mild-steel boiler and superheater tubes for design steam temperatures not exceeding 850° F. The standard provides for tubes manufactured from mild-steel strip resistance welded continuously by the passage of an electric current across the abutting edges. Tensile limits of 20 to 28 tons per sq. in. are specified with elongations varying with thickness of tubes and form of test pieces. Flattening and expanding tests are also stipulated as well as permissible variations on thickness and diameter. Copies of the new publication may be obtained from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, price 2s.

Recent Developments in Train Speed Recording

Positive action and simplicity of design incorporated in an instrument with a range of 5 to 100 m.p.h.

By F. R. Axworthy, A.M.I.E.E.

THE importance of train speed recorders is emphasised by the fact that British Railways appointed a committee, under the chairmanship of Mr. W. M. Bond of the London Midland Region, to consider the various instruments available and to enquire into the possibility of providing an improved design. Instruments for recording the speed of trains may be installed at the side of the track many miles from stations or other railway buildings. This factor imposes certain limitations in their design. They must be weatherproof, completely self-contained, portable and robust. If they are electrically operated, as is usual, they must be capable of being operated by batteries and their power consumption should be low enough for these to last a reasonable time.

Various Methods

The usual method of obtaining the speed of a vehicle, by measuring the angular velocity of a wheel of known dia., is not applicable when recordings are to be made at a point remote from the vehicle. The average speed of a moving body, being equal to distance divided by time, can be obtained in any one of three ways: By (a) measurement of both distance and time; (b) by measurement of distance travelled during a fixed time; and by (c) measurement of time taken to travel a fixed distance.

Of these, the first is the least attractive since it involves handling two variables. Of the two remaining methods, (b) has the advantage that the speed is directly proportional to the measured distance, whilst (c), in which the variable is the quantity most readily measured, the speed is inversely proportional to the time.

It follows that an instrument operating on the principle of (b) has a scale inherently evenly divided; whereas by use of (c), a scale shape of the form shown in Fig. 1a is produced. Further consideration of (b), however, shows that a practical instrument would be somewhat costly to manufacture. It would almost certainly be electronic in principle and would require specialist operation and maintenance. Thus (c) is the method which has been most generally applied to the solution of the problem, and Fig. 1a is typical of the scale shapes of early train speed recorders.

Recent developments in the design of instruments of type (c) have been mainly centred around methods of improving the scale shape. A recorder developed at the Building Research Station was described by R. S. Jerrett and F. G. Thomas in 1944.* This records the measured speed by drawing lines on a chart and compensates for the inverse law of the scale by using a cam to move the pen. The shape of the cam is calculated to provide a scale that is evenly divided over a range of from 25 to 80 m.p.h. The cam is driven by a synchronous motor, the a.c. supply being provided by a transformer and vibrator unit operated from a 12 V. battery.

The Derby research laboratories of the London Midland Region of British Railways have applied the same principle to a speed recorder in which the pen is replaced by a mechanism which prints the speed of each train, together with the time of measurement, on a narrow paper tape. In this instrument, which has a range of from 5 to 100 m.p.h., the cam is driven by a governed d.c. motor.

A somewhat different approach to the problem of producing a linear scale when measuring the time to travel a

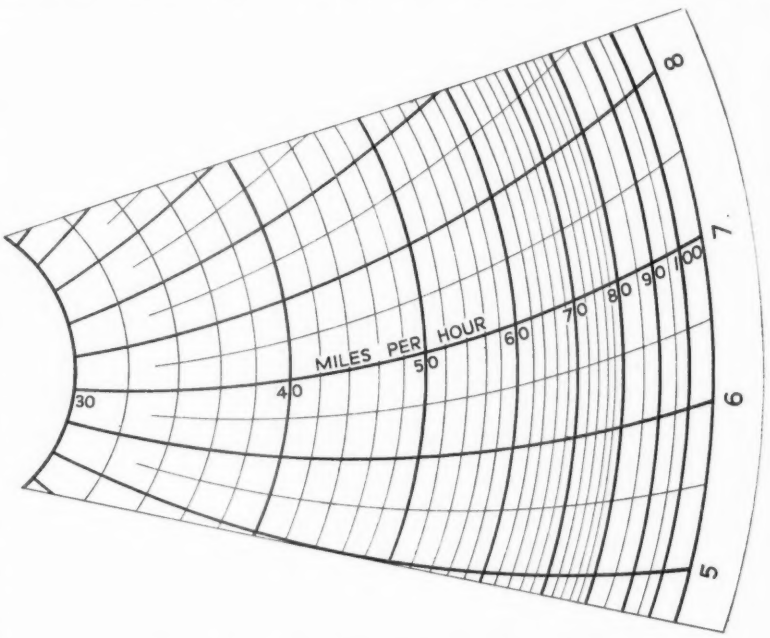


Fig. 1 (a)—Scale for operating on principle "c"

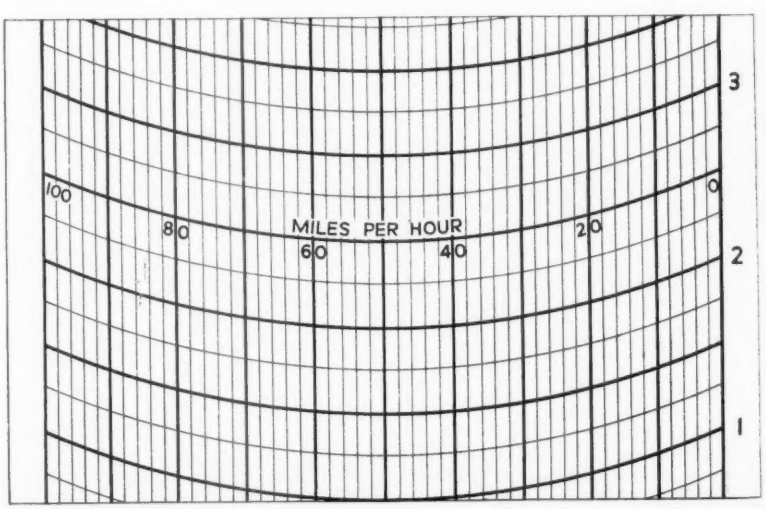


Fig. 1 (b)—Scale for operating on principle "c" with electrical computer

* Journal of Scientific Instruments. July, 1944. Vol. XXI, p. 119

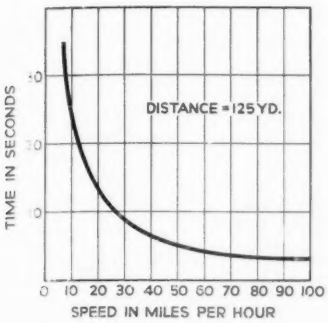


Fig. 2 (a)

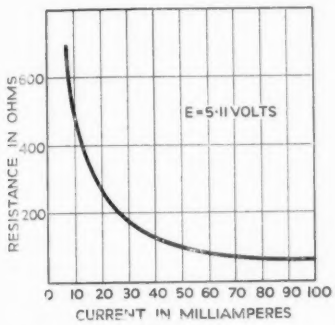


Fig. 2 (b)

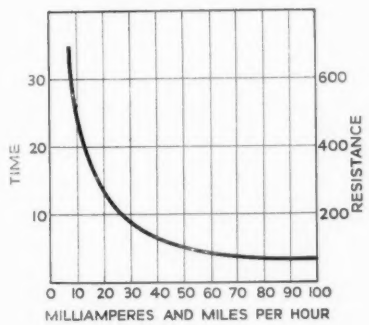


Fig. 2 (c)

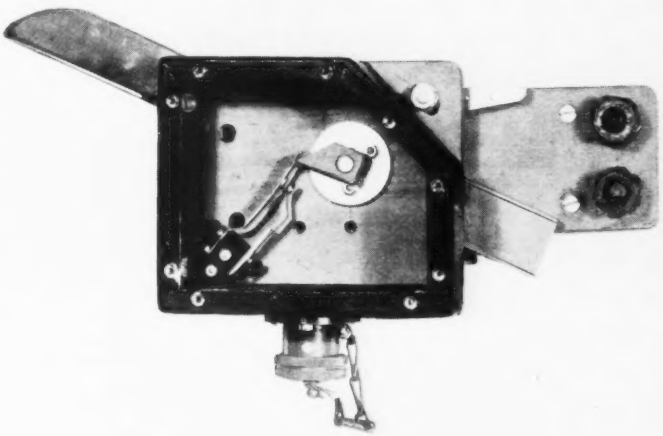
Relationship between speed, time, and recorder current

known distance, is made in a new recorder designed by Everett Edgcumbe & Co. Ltd., of Hendon. This contains a simple analogue computer, the output of which is a current directly proportional to speed. If the symbols S, D and T refer to speed, distance and time respectively, $S = \frac{D}{T}$, which may be compared with the well known formula derived from Ohm's law, $I = \frac{E}{R}$, where I is the electric current flowing in a circuit of resistance R when a voltage E is applied.

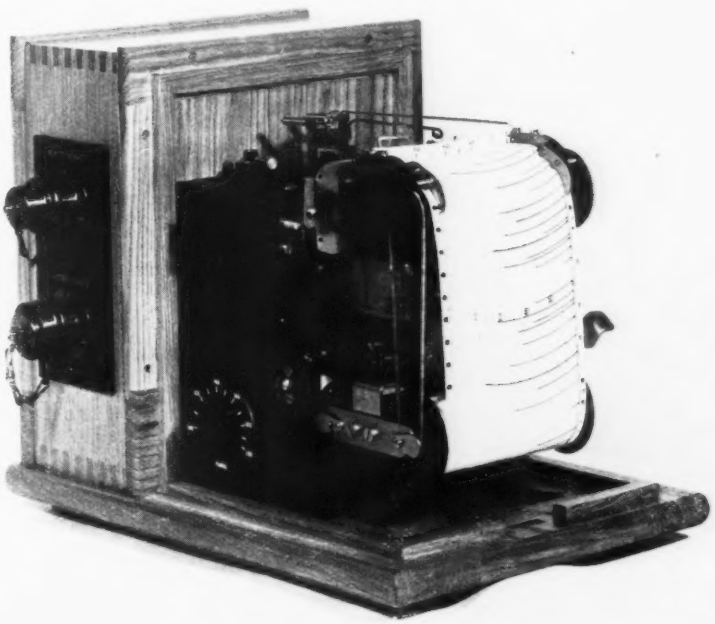
If, therefore, the known distance D is represented by a fixed voltage E applied to a circuit whose resistance is made to vary directly as the time, the current which flows will be directly proportional to the speed. The theory of the instrument is illustrated in Fig. 2, where (a) shows the variation of speed with time over a fixed distance and (b) shows the variation of current with resistance when a fixed voltage is applied. With the choice of suitable voltage and resistance values and the latter arranged to vary directly with time, it is seen in (c) that the two curves, when drawn to a common scale of current and speed, are coincident.

Under such conditions, therefore, there will be equal increments of current for equal increments of speed. In the practical application of this principle, the resistance comprises a rotary potentiometer, the moving contact of which is driven by a synchronous motor energised from a vibrator. The current is measured on a moving coil milliammeter calibrated in m.p.h., the result being an evenly divided scale of speed as shown in Fig. 1(b). The computer unit is illustrated on the next page.

It will be realised that the accuracy of the instrument depends on how closely the fixed reference voltage is maintained at its nominal value. It is also affected by the frequency stability of the vibrator, since a change in frequency results in a change in speed of the synchronous motor and hence in an incorrect value of resistance in the computer circuit. However, the interdependence of the reference voltage and computer resistance is used to provide automatic compensation for variations both



Track switch with cover removed



Track recorder and base length adjuster

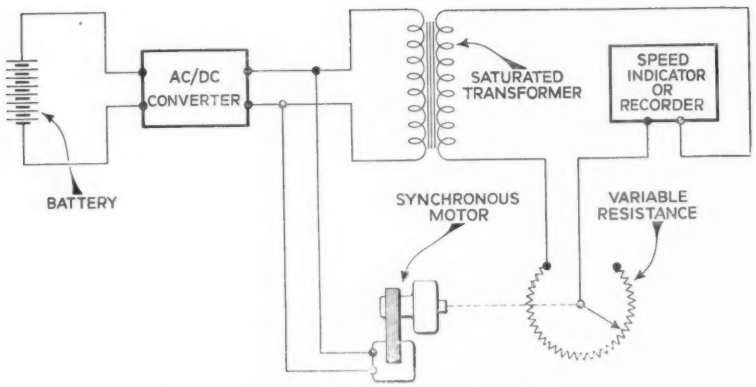


Fig. 3—Simplified wiring diagram of recorder

in battery voltage and vibrator frequency. The method is illustrated in Fig. 3 above.

The reference voltage, E, is derived from a transformer energised at the same frequency as the synchronous motor. This transformer is designed to be magnetically saturated throughout the normal range of battery voltage over which it is proposed to work. Being saturated, the average secondary voltage, E, is independent of the value of primary voltage, but is directly proportional to the vibrator frequency. It follows, therefore, that the output current is not affected by changes in battery voltage, and that any change in vibrator frequency results in both the voltage and the resistance of the computer circuit changing in the same proportion to maintain the output at its correct value.

Having an electric current as the output of the computer introduces a high degree of flexibility to the instrument. Speed indication at a point remote from the recorder is easily achieved, another series milliammeter being the only requirement. If the remote indicator is fitted with contacts, all trains exceeding a pre-set speed could be made to give a visual or audible warning. Again, the base length, or distance over which the time is measured, is easily made adjustable with electrical measurement. Reducing the base length reduces the computer resistance at any given speed and consequently increases the current. This can be corrected by altering the sensitivity of the milliammeter. If the sensitivity is made adjustable by means of a continuously variable shunt, the shunt can be calibrated in terms of the base length.

Alternatively, the voltage applied to the computer can be altered to allow for changes in base length. Although either of these methods can be used, the latter has certain practical advantages. The present instrument operates on a timing distance which may be varied between 100 and 200 yds. or between 75 and 150 yds. However, the same computer system could be used for a speed recorder operating on a base length of from 1 to 3 ft., although this would make the instrument somewhat more expensive.

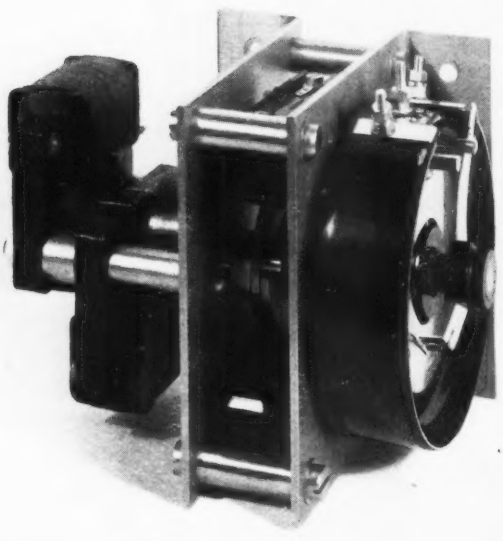
Train Operating Switches

The base length is defined by train operated switches on the track. The time of operation of a switch being necessarily short, self-holding high-speed relays are required in the control circuit. These operate further multi-contact relays which perform the various control functions. The circuit is arranged to measure the speed of trains travelling in both directions. It is self-resetting, but will not reset until there has been an interval of at least 30 seconds between impulses received from the track switches. This latter feature prevents an incorrect reading being made by a long slowly moving train straddling the switches. To ensure that the motor stops immediately, when the second switch is made, d.c. is substituted for the normal a.c. supply, thus locking the rotor.

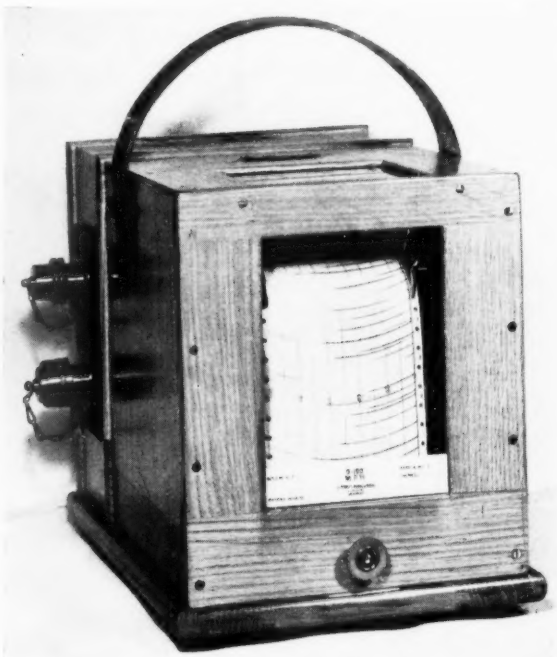
If only one switch is closed the recorder will automatically reset after a suitable interval. It will not record the speed of trains moving at less than 5 m.p.h. The equipment operates from a 12 V. battery with a power consumption of 18 W. during measurement periods. There is no consumption while the instrument is quiescent.

The recording milliammeter is of a

(*Continued on page* 161)



The computer unit of the recorder



Everett Edgcumbe train speed recorder

Side Tank Locomotives for East Africa

For operating on the Tanganyika section of the East African Railways & Harbours

TWO 2-6-2 type side tank locomotives, required for the East African Railways & Harbours, have recently been completed by W. G. Bagnall Limited at the Castle Engine Works, Stafford. The locomotives, which will operate on the Tanganyika section, have been built to the requirements of the Chief Mechanical Engineer of the railways, and to the supervision and inspection of the Crown Agents for the Colonies.

They are generally similar to the standard shunting engines previously supplied to Tanganyika, but a number of new features has been incorporated, and a degree of standardisation of parts with other locomotives recently supplied has been carried out.

Principal Design Features

The boiler is fitted with a Belpaire firebox and has two barrel rings, the smaller being 4 ft. 3½ in. inside dia. and the plates are ½ in. thick. The firebox is of the narrow type, fitted between the frames, and is 7 ft. long × 2 ft. 8¼ in. wide outside. The inside firebox is made of copper ½ in. thick, and the roof is stayed by steel direct stays with four rows of sling stays at the front to allow for expansion; the water space stays are of copper.

There are 107 small flue tubes and 18 superheater flue tubes. The small tubes are 1¾ in. outside dia. × 11 s.w.g. thick and the large tubes are 5¼ in. outside dia. × 8 s.w.g. thick. A Melesco, 18-element superheater is fitted, which incorporates the multi-valve regulator, the operating gear being arranged outside the boiler.

Two 16 in. bore × 22 in. stroke cylinders with 8 in. dia. piston valves are fitted, the valve gear is of the Walschaerts type and the reversing gear is lever operated. The Ajax system of grease lubrication is provided on the

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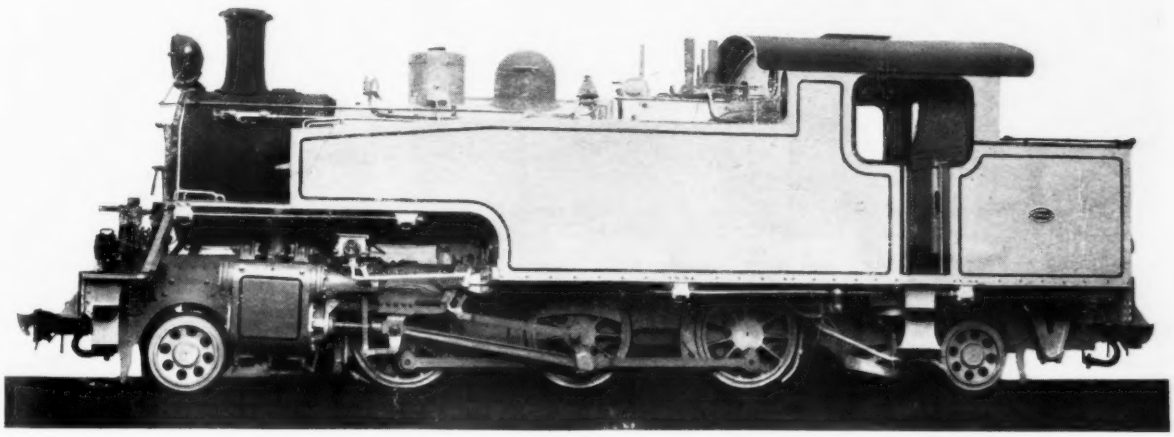


Side tank locomotive for the Tanganyika section of East African Railways & Harbours

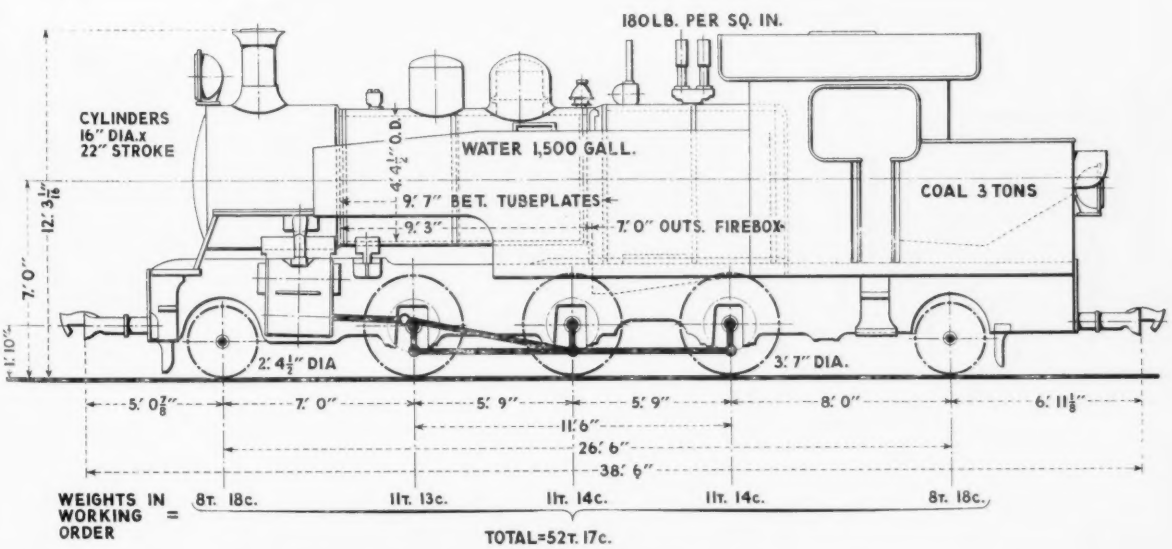
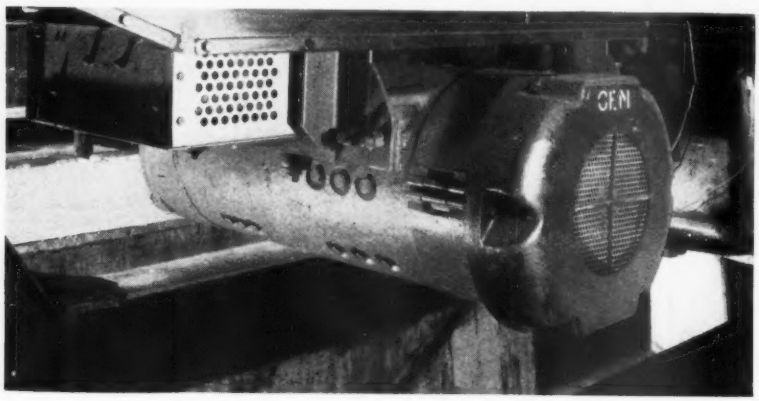


Diagram of principal weights and dimensions of the locomotive

Fluorescent Lighting on London Transport "R" Stock

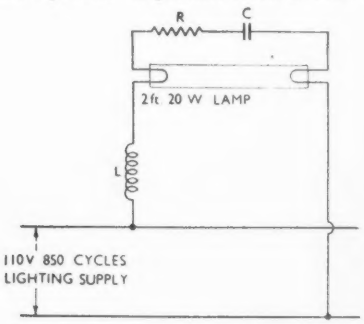
Adaptation of Metrovick motor-generator to provide high-frequency a.c. supply for lamps

AN interesting scheme for the power supply for fluorescent lighting has been developed by the Metropolitan-Vickers Electrical Co., Ltd., in collaboration with the London Transport Executive. It is for the new "R" surface-line stock of London Transport, and is the first large-scale application of fluorescent lighting to railway transport vehicles. The company is supplying London Transport with 179 generator and regulator equipments described below. A notable feature is the special dual-purpose motor-generator set with its associated voltage regulator equipment, which are carried on the car underframe.



Metrovick dual-purpose a.c.-d.c. motor generator set mounted on underframe

All the gear for the 24 2-ft. 20-W. lamp circuits in each of the cars involved is being supplied by the General Electric Co., Ltd. The lamps are operated in parallel from a 110V., 850-cycle supply of sufficient capacity to light the lamps in three cars, although the normal practice at first has been to supply two cars from each 110V. output.



Resonant start circuit for fluorescent lighting

Power factor correction for the lighting circuits serving two or three cars is provided centrally, so that the gear in the individual lamp circuit is confined to a series choke, a starting capacitor, and a starting resistance. These three components are attached to the back of the lamp fitting, designed by London Transport, and are therefore normally concealed between the ceiling and roof of the car, but the fitting can be rotated about the axis of the lamp when access to the gear is required.

In addition to avoiding risk of interaction track circuits of the signalling system, the relatively high frequency of 850 cycles enables a resonant starting circuit to be used for the lamps, as shown in the diagram. The choke *L* and capacitor *C* together form a circuit with a resonant frequency sufficiently close to that of the supply to give a voltage across *C* under starting conditions higher than that of the input; and a value sufficient to start the discharge in the lamp is obtained. Resistance *R* limits the voltage developed across the lamp to prevent the discharge striking before the filaments are adequately pre-heated.

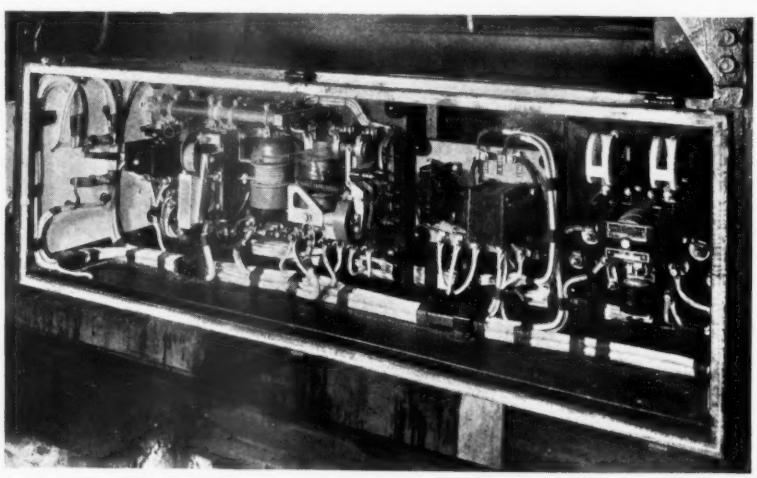
When the lamp strikes, the discharge virtually short circuits *C*, so that the lamp receives the normal running voltage and the choke serves to limit the lamp current in the usual manner.

The provision of this a.c. supply has been made an additional function of the motor-generator set which was already essential to give a d.c. supply for control circuits, door operation, battery-charging, and so on. To provide the a.c. supply, a winding has been incorporated in slots in the pole faces of the generator; the slots are semi-closed and the a.c. voltage is induced as in an inductor type alternator.

Dual-Purpose Machine

The dual purpose machine consists of a 600-V. driving motor and combined d.c. and a.c. generators, all in one frame. The motor and generator armatures are carried between two bearings in a common yoke. By the use of this design it has been possible to obtain a most compact set.

The enclosure and ventilation of the combined machine is on the virtually totally-enclosed system now commonly used for traction motor-generator sets. Air is drawn through ducts in the armature cores and commutators and discharged over the outside of the yoke proper and the inside of the machine casing; in this arrangement the windings and commutator surfaces are not in the air current and are therefore not liable to the injurious effects of dust. The d.c. output, which serves various control circuits, is 80A. at 50V. The a.c. output



Voltage regulator panel in equipment case, with covers removed, mounted on underframe

at 110-V. 850 c/s. and is sufficient to supply a total of seventy-two 20-W. fluorescent lamps.

Regulation of Machine

The regulation of the machine presented an extremely intricate problem. The following conditions have to be fulfilled over a wide range of supply voltage (450-750-V.) and load (d.c. and a.c. output varying from 0 to 100 per cent.):—

(*a*) The frequency (and therefore the speed) must be kept as constant as possible because of the resonance starting of the lamps.

(*b*) The regulation has to be such as to keep starting and running currents within close limits, ensuring that the lamps start under all conditions, and has to cope with service to alternatively 48 or 72 lamps, according to whether the generator is serving a two or three-coach train unit.

(*c*) The d.c. voltage of the generator must be kept within narrow limits.

One voltage regulator, of the standard traction vibration type, used in a patented circuit, satisfies all these requirements. It operates on the motor field, which is separately excited from the d.c. generator, and so maintains the speed of the set at a sensibly constant value. The generator is a flat-compounded machine and therefore, provided the speed is steady, the a.c. and d.c. voltages will not be affected appreciably by variations in load. The one voltage regulator thus fulfils three tasks; it keeps within close limits the speed (and therefore the frequency), the d.c. voltage, and the a.c. voltage.

Interior of "R" stock coach fitted with Metrovick power supply equipment and G.E.C. lamp circuit components for fluorescent lighting

The substantially constant frequency has the further advantage that proper capacitor compensation in the a.c. circuit can be used. A main series capacitor compensates the internal reactance of the a.c. winding and makes the output voltage to a great extent unaffected by variations in the a.c. load. A parallel capacitor provides the wattless current from the set. In addition to its separately excited field, the motor has also a series winding for stability purposes and to assist starting. A permanent resistance is in the main motor circuit. The set is started up by direct switching on to the line.

Side Tank Locomotives for East Africa

(*Concluded from page* 155)

motion, side rods, connecting rods, and eccentric rods. A No. 7 Wakefield mechanical lubricator is fitted, having ten feeds, six of these being arranged to the axleboxes, and the remainder to the slidebars. Also provided is a Detroit sight feed lubricator with feeds arranged to the cylinder barrel and steam pipe.

The locomotive frames are of steel plates 1 in. thick with pressed steel stays. The axlebox guides are fitted with adjusting wedges and are of cast steel, the cast-steel axleboxes having gunmetal bushes, lined with white metal. The bearing springs are of the laminated type, under slung and not compensated.

The brake gear is fully compensated throughout and is vacuum operated by two 21 in. "F" class cylinders arranged outside the frame behind the foot-step. A Gresham & Craven S.J. ejector, type G is fitted.

The front truck, which is of the swing-link type, is fitted with Timken roller bearings, and the hind truck with a Timken cannon type axlebox. Boiler feed is by means of two No. 7 Gresham & Craven injectors. In addition to the usual steam fittings a steam operated bell is provided. Gravity sanding has been arranged and the front sanding is from a sandbox arranged on top of the boiler. The front of the tank is sloped to give the driver increased vision, and the bunker is designed to be self-trimming.

The electric lighting equipment is supplied by J. Stone & Co. Ltd. and embodies a turbo generator with an output of 500 watts at 24 V. Included in the fittings are two 14 in. dia. Tonum "E" head lights, cab lights, gauge lights, marker lights, and motion lights, arranged on the under side of the tank each side of the locomotive to facilitate inspection of the motion and front and hind trucks.

The couplers are of the M.C.A. type, but arrangements have been made so that, when the conversion of this railway to 3 ft. 6 in. gauge is carried out, M.C.B. couplers can be fitted. With the possible future conversion in view, the wheel centres have been designed so that new tyres can be fixed in the 3 ft. 6 in. gauge position by reducing the dia. of the wheel centres and increasing the tyre thickness $\frac{1}{4}$ in. The brake gear is designed so that alteration to the gauge means only transposing the brake hangers; no new brake parts will be required.

The principal dimensions of the locomotives are as follow:—

Cylinders (2)	16 in. dia. × 22 in. stroke.
Coupled wheels, dia.	3 ft. 7 in.
Leading and trailing truck wheels, dia.	2 ft. 4½ in.
Rigid wheel base	11 ft. 6 in.
Total wheel base	26 ft. 6 in.
Heating surface:—	
Boiler and flue tubes	706 sq. ft.
Firebox	100 sq. ft.
Total evaporative	806 sq. ft.
Superheater	181 sq. ft.
Total	987 sq. ft.
Grate area	1,275 sq. ft.
Boiler pressure	180 lb. per sq. in.
Tractive effort at 85 per cent. boiler pressure	20,040 lb
Water capacity of tanks	1,500 gal.
Bunker capacity, coal	3 tons

GUARDS FOR COUPLINGS AND ASSOCIATED SHAFTING.—A new British Standard (B.S. 1649:1950) has been published which is of interest to all concerned with preventing accidents due to rotating parts. In this new standard—which takes note of the Factories Act, 1937, and has been prepared with the co-operation of the engineering branch of the Factory Department of the Ministry of Labour & National Service—general requirements have been laid down for guards which should be applied to couplings between units such as a motor and a pump and also guards required for a length of shafting and coupling. Copies may be obtained from the British Standards Institution, Sales Department, 24, Victoria Street, London, S.W.1, price 2s.

British Railways Standard Locomotives

(See our February 2 issue)

4-6-2 mixed-traffic locomotive No. 70000, "Britannia," on test run with dynamometer car leaving Crewe

Mr. Alfred Barnes, Minister of Transport, performing the naming ceremony at Marylebone on January 30 of British Railways standard locomotive No. 70000. With Mr. Barnes are (left to right) Sir Eustace Missenden, then Chairman of the Railway Executive; Lord Hurcomb, Chairman of the British Transport Commission; and Mr. R. A. Riddles, Member of the Railway Executive for Mechanical & Electrical Engineering

RAILWAY NEWS SECTION

PERSONAL

Mr. H. E. Stokke has been appointed Director General of the Norwegian State Railways. He is a former Under-Secretary of State for Communications, and since 1948 has been Mayor of Oslo.

The Railway Executive has announced that Mr. E. D. Trask, Assistant Motive Power Superintendent, Scottish Region, has been appointed Motive Power Superintendent, Scottish Region.

Mr. F. S. Veltom, Irish Traffic Manager, Western Region, British Railways, has retired, and Mr. A. J. Broughton, Irish Traffic Manager, London Midland Region, has been appointed Irish Traffic Manager, London Midland and Western Regions.

The Rt. Hon. Lord Forres has been appointed a Director of the Taltal Railway Co. Ltd. in place of Mr. Walter Woodbine Parish who retired on January 31.

Mr. D. L. Pride, District Operating Superintendent, Birmingham (Western), London Midland Region, has been appointed District Operating Superintendent, Birmingham District, Western Region.

Mr. F. A. Gaffney, formerly Transport Economist, Montreal, Canadian National Railways, has been appointed Chief of Transport Research, and has been succeeded by Mr. G. R. Johnston, Assistant Transport Economist, Toronto.

The peerage conferred in the New Year Honours List on Mr. Thomas MacPherson, Member of Parliament for Romford, 1945-50, and a Member of the Port of London Authority, has been gazetted by the name, style, and title of Baron MacPherson of Drumochter, of Great Warley in the County of Essex.

Mr. J. A. Kilby has been appointed Chief Mechanical Engineer of Colvilles Limited, in succession to Mr. T. W. Hand.

DINNER TO MR. H. R. MCINTOSH

Mr. H. R. McIntosh, who recently retired as Mechanical Engineer of the Great Northern Railway (Ireland), was the guest of honour at a dinner given recently at the Gresham Hotel, Dublin. A presentation to Mr. McIntosh was made by Mr. C. H. Slater, Civil Engineer, and an illuminated address was presented by Mr. P. K. M. Carey, Solicitor, G.N.R.(I.). Those present included also the following officers of the G.N.R.(I.): Messrs. R. W. Meredith, Acting Mechanical Engineer; P. H. Patterson, Accountant; J. F. McCormick, Managerial Executive Officer; H. E. Wilson, Works Manager & Acting Assistant Mechanical Engineer; C. Johnston, Hotels & Catering Manager; T. J. Carton, District Superintendent; J. S. McCormick, Stores Superintendent; and G. R. Henry, Locomotive Running Superintendent.

Mr. John Elliot, M.Inst.T., Chief Regional Officer, British Railways, London Midland Region, who, as recorded in our February 2 issue, has been appointed to the Chairmanship of the Railway Executive, was born in 1898, and was educated at Marlborough and the Royal Military College, Sandhurst. He served in the 3rd Hussars in the 1914-18 war, and resigned his commission in 1920 to take up journalism. He joined the Southern Railway in 1925, and became Development Officer in 1930, Assistant Traffic Manager in 1933, Assistant General Manager in 1937, Deputy General Manager in 1939 and Acting General Manager in 1947. On the nationalisation of the railways on January 1, 1948, Mr. Elliot became Chief Regional Officer of the Southern Region, and he was appointed Chief Regional Officer, London Midland Region, as from January 1, 1950. He was closely associated with the organisation of the railway-operated air services, and is a Director of Thos. Cook & Son Ltd., and of various railway-associated road transport companies. He has studied transport in America and Canada. He is a Lt.-Colonel in the Engineer & Railway Staff Corps. Mr. Elliot holds the U.S.A. Medal of Freedom with bronze palm for special services to the Transportation Corps, U.S. Army. In March, 1949, he visited Australia at the invitation of the Victorian Government to report generally on the Victorian Government Railways and in 1950 gave evidence on behalf of the Ulster Transport Authority concerning the proposed closure of the Belfast & County Down Railway.

Mr. John Elliot

Appointed to the Chairmanship of the Railway Executive

Sir Joseph Nall has been elected a Director of the Manchester Ship Canal, in place of the late Mr. W. L. Jones.

The North Eastern Region has announced that Mr. E. E. Cowell, Assistant District Operating Superintendent, York, has been appointed District Operating Superintendent, Sunderland.

Mr. P. H. Hicks has been appointed District Engineer, East African Railways & Harbours; he is at present Resident Engineer in charge of the West Uganda Extension survey.

Mr. E. Tankard has been appointed Chief Accountant, and Mr. A. Cooper, Assistant Accountant, Metropolitan-Vickers Electrical Co. Ltd.

The late Mr. Harry Tilling, who was sometime Managing Director of Thomas Tilling Limited, left £166,918.

Sir Henry Wilson Smith, Mr. Alfred Read, Mr. M. B. Reid, and Mr. T. S. Overy have been appointed additional Directors of Powell Duffryn Limited. Mr. Alfred Read is retaining his office of Secretary to the company.

Mr. Harry J. Leddy has been elected Executive Vice-President of the Shippers' Car Line Corporation, a subsidiary of the American Car & Foundry Company, and Mr. John B. Davenport has been appointed Vice-President in charge of sales.

Mr. R. W. Birch has recently resigned the Chairmanship of the South Wales Transport Co. Ltd., and of its subsidiary, the Swansea Improvements & Tramways Company, and Mr. W. T. James has been appointed Chairman in his place. Mr. Birch retains his seat on the boards of the two companies.

Mr. R. C. Johnston, Assistant Vice-President, Personnel, of the Canadian National Railways, has been elected President of the Canadian Railway Club of Montreal.

Mr. E. D. E. Andrewes, Mr. T. J. Boulstridge, and Mr. P. Grove have been elected to the Board of Tube Investments Limited. Mr. E. D. E. Andrewes is Managing Director of TI (Export) Limited; Mr. T. J. Boulstridge is Managing Director of J. A. Phillips & Co. Ltd.; and Mr. P. Grove is Director of Production, Steel Tubes Division, TI (Group Services) Limited.

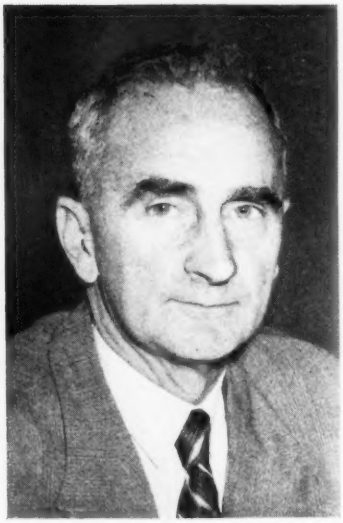
Mr. P. J. Thorn, who, as recorded in our February 2 issue, has retired from the office of Solicitor, New South Wales Government Railways, was admitted as a solicitor of the Supreme Court of Queensland in 1907, and served in the first World war from 1914 to 1918. He began service in

Mr. S. C. J. Burke

Appointed Solicitor, New South Wales Government Railways

Mr. W. A. Anderson

Appointed Secretary, New South Wales Government Railways



Mr. A. J. McAndrew

Appointed Assistant Secretary, New South Wales Government Railways

the New South Wales Department of Railways in 1919, and was appointed Assistant Solicitor for Railways in 1930, and Solicitor for Railways in January, 1948.

Mr. S. C. J. Burke, Assistant Solicitor, New South Wales Government Railways, who, as recorded in our February 2 issue, has been appointed Solicitor was admitted as a solicitor of the Supreme Court of New South Wales in May, 1924, and in August of the same year he began service as a law clerk in the Department of Railways. In 1937 he was appointed Senior Legal Officer, and in the following year he became Assistant Solicitor for Railways. Mr. Burke served with the Australian Infantry Forces from May, 1940, until he resumed duty with the Department in March, 1946.

Mr. S. R. Nicholas, who, as recorded in our February 2 issue, has retired as Secretary of the New South Wales Government Railways, began his railway career in 1900 and was appointed Information Officer in 1927. He became Assistant Secretary in 1930 and Secretary in 1943. In 1927 he was also appointed Assistant Secretary of the Australian & New Zealand Railway Conferences, and he became Secretary in 1930, from which post he retired early in 1943. In 1935 Mr. Nicholas accompanied Mr. T. J. Hartigan, then Commissioner for Railways, on his overseas tour.

Mr. W. A. Anderson, Assistant Secretary, New South Wales Government Railways, who, as recorded in our February 2 issue, has been appointed Secretary, entered the New South Wales Department of Railways as a junior clerk in 1913. He saw war service from September, 1915, to June, 1919. He was appointed Information Officer for the department in 1936, and subsequent positions held by him include Information & Finance Officer, Public Relations Officer, Administrative Assistant, and Assistant Secretary.

Mr. A. J. McAndrew, Public Relations Officer, New South Wales Government Railways, who, as recorded in our February 2 issue, has been appointed Assistant Secretary, began his career in the New South Wales Department of Railways in 1917. He was appointed Efficiency Officer in 1935, and Inspecting Officer in 1938. In 1943 he became Inspecting & Tourist Officer, and he has been Public Relations Officer since 1945. In 1935 Mr. McAndrew was appointed Assistant Secretary of the Australian & New Zealand Railway Conferences, and he became Secretary of the Conferences in 1943.

Mr. C. N. Montague, Assistant to Accountant (Revenue), Kings Cross, who, as recorded in our February 2 issue, has been appointed Revenue Accountant (Mer-

Mr. C. N. Montague

Appointed Revenue Accountant (Merchandise), Eastern and North Eastern Regions

Mr. H. Eagers

Appointed District Engineer, Hull, North Eastern Region

Western Daily Press [& *Bristol Observer*

Mr. G. S. Rider

District Commercial Superintendent, Bristol, Western Region, who has retired

chandise), Eastern and North Eastern Regions, Newcastle, joined the Accountant's Department of the Great Northern Railway at Kings Cross in 1914. He was transferred to the staff of the Divisional Accountant, Southern Area, L.N.E.R., in 1926, and was appointed Assistant District Auditor in 1937, and served in the Norwich and Leeds Districts. He returned to Head Office at Marylebone in 1945, to take charge of the District Auditors Reports Section in the Revenue Accountant's Office and in 1948 he was transferred to Kings Cross as Assistant to Accountant, Eastern and North Eastern Regions, for Revenue & General matters.

Mr. H. Eagers, B.A., A.M.I.C.E., formerly Assistant District Engineer, Darlington, who has been appointed District Engineer, Hull, North Eastern Region, was educated at King Edward VII School, Sheffield, and Jesus College, Oxford. He joined the L.N.E.R. as a pupil under Mr. John Miller, Engineer, North Eastern Area, York, in 1930, and after holding positions in all sections of the Civil Engineer's Office, York, and District offices, he was appointed Assistant District Engineer, Darlington, in January, 1948. During the recent war Mr. Eagers served with Royal Engineers Transportation Services and spent four years in India, where he was latterly an Assistant Director of Transportation at General Headquarters, India, with the rank of Lt.-Colonel.

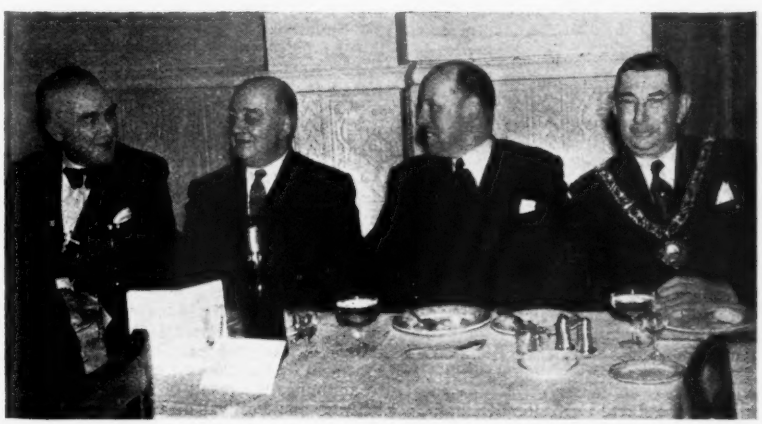
Mr. G. S. Rider, M.B.E., M.Inst.T., District Commercial Superintendent, Bristol, Western Region, who, as recorded in our January 5 issue, has retired, joined the L.N.W.R. in the Assistant Goods Manager's office, Euston, in 1900, and after probationer training and service at Harrow and Northampton, he went to the Conciliation Department, Euston, in 1911. He was loaned to the Ministry of Munitions as personal assistant to Mr. Howard-Williams, Director of Munitions (Inland Transport), in 1915, and received the M.B.E. In May, 1918, he took up an appointment in the General Manager's Office, but was loaned to the Controller of Mines in November of that year for a special inquiry. After returning to the General Manager's Officer in 1919, he was appointed Staff Assistant in that office in 1920. In 1923, on the establishment of a General Welfare Department, which was entrusted with all questions affecting personnel apart from such questions as hours and wages, he was appointed General Welfare Superintendent and amongst his other activities instituted the *L.M.S. Magazine*. In 1926 Mr. Rider became Assistant to the Stores Superintendent, and in April, 1931, he went to the Solicitor's Department to assist in the administration of the Road Traffic Act. In October, 1931, he was appointed District Goods & Passenger Manager, Bristol, which post became District Commercial Superintendent, Bristol, Western Region, in 1950. Mr. Rider has been a Member of the Institute of Transport since 1932.

Mr. H. K. Stein; Secretary & Law Officer, Shell-Mex & B.P. Limited, has retired.

DINNER TO MR. F. S. VELTOM

A dinner was given recently at the Shelbourne Hotel, Dublin, in honour of Mr. F. S. Veltom, who has retired from the position of Irish Traffic Manager, Western Region, British Railways. Mr. K. W. C. Grand, Chief Regional Officer, Western Region, British Railways, presided, and in proposing the toast to Mr. Veltom, referred to his 22 years' service in Ireland. Mr. F. M. Summerfield, President of the Dublin Chamber of Commerce, who proposed the toast of British Railways, mentioned the vital part of that system in the country's economy and also referred to the landing facilities at Dun Laoghaire. Mr. E. S. Hunt, Assistant Chief Regional Officer, London Midland Region, in response, said that there were ambitious schemes to improve landing facilities for passengers at Dun Laoghaire Pier, but that pending their completion, temporary plans to effect improvements there would be put into operation this year. Mr. A. J. Broughton, Irish Traffic Manager, London Midland and Western Regions, British Railways, and Mr. F. H. O'Donnell, President, Federation of Irish Manufacturers, also spoke, and among others present were Mr. C. Furber, Commercial Superintendent, Western Region, and Mr. A. E. Hammett, Commercial Superintendent, London Midland Region.

Dinner to Mr. F. S. Veltom



Group at the dinner held recently in honour of Mr. F. S. Veltom on his retirement as Irish Traffic Manager, Western Region, British Railways (*see paragraph above*)

Left to right: Messrs. F. H. O'Donnell, President, Federation of Irish Manufacturers; F. S. Veltom; K. W. C. Grand, Chief Regional Officer, Western Region, British Railways; F. M. Summerfield, President, Dublin Chamber of Commerce

Sir Alfred H. Read, Chairman, and Mr. A. A. Lough have retired from the board of the British & Irish Steam Packet Co. Ltd. Captain A. R. S. Nutting has been appointed Chairman and Sir James Milne has joined the board.

The late Mr. F. M. Osborn, who was Chairman of Samuel Osborn & Co. Ltd. and of George Turton, Platts & Co. Ltd., left (duty paid £67,857) £114,416.

Mr. W. C. F. Hessenberg, has been appointed Deputy Director of the British Iron & Steel Research Association, of which Sir Charles Goodeve is Director. Mr. Hessenberg has been head of the Association s Mechanical Working Division since March, 1947, and retains this position.

Mr. L. H. Cooper has been appointed Chairman, and Mr. L. K. Brindley, Managing Director, of the Mond Nickel Co. Ltd. Mr. G. Archer and Mr. A. Parker Hague continue as Directors of the company, and Mr. I. A. Bailey, Dr. L. B. Pfeil and Dr. A. G. Ramsay have also been appointed Directors.

The following notifications appeared recently in *The London Gazette* under the heading of Supplementary Reserve of Officers, Royal Engineers, Transportation Section:—

Captain P. R. Dashwood, B.Sc., is granted the acting rank of Major, October 1, 1950.

Second Lieutenant G. L. Nicholson to be Captain, November 22, 1950.

Mr. W. E. A. Redfearn, a Special Director of English Steel Corporation Limited, has been elected Chairman of the Alloy Steels Association, in succession to the late Major Guy S. Newton. Mr. Redfearn is also President of the National Association of Drop Forgers & Stampers.

Recent Developments in Train Speed Recording

(*Concluded from page* 154)

standard design of which many thousands have been made for various purposes. It has a permanent magnet moving coil movement developing a very high torque. The pen is of the syphon type fed from a fixed reservoir. The roll chart, 65 ft. in length, is driven by a clockwork motor which includes a lever escapement for accurate time-keeping. Various chart speeds are provided and these are readily changed. With the chart operating at 1 in. per hr. it is possible to differentiate between trains at three minute intervals, but a chart speed of 3 in. per hour may be preferred where the train frequency is high.

Apart from the recorders, the track switches have also presented a problem in design. The British Railways committee on speed recorders put forward several tentative switch designs, and after field trials of the various types, a development of a lever operated switch, originally due to Scottish Region engineers of British Railways, has been produced by Everett Edgcumbe & Co. Ltd. The switch is of light weight, positive in action, and may be adjusted for height after clamping to the rail. The duration of contact closure is amply sufficient for the operation of the recorder.

Parliamentary Notes

Commons Debate on Coal

Defeat of Opposition motion on coal shortage

A Conservative motion deploring the contrast between Ministerial promises of adequate coal and the present shortages, which have caused hardship in the home and threaten widespread industrial production was defeated in the House of Commons on February 1 by 300 votes to 289.

Mr. Brendan Bracken (Bournemouth East & Christchurch—C.) moving the resolution, said that the Chairman of the National Coal Board, last April declared "Either we get more coal or the whole basis of British life may be threatened. I doubt if the country realises the gravity of the position." Disregarding that warning, said Mr. Bracken, the Minister of Fuel and Power had made a speech in the House on July 12 which abounded in optimism. He had been reckless in the press interview on September 25, when the risk of another coal crisis was apparent, saying there was no reason to fear another fuel crisis. On November 20 the Minister announced that it had become necessary to buy American coal.

The consequences of coal nationalisation so far were that many homes were cold, and many railway services were being drastically cut. If there were any truth in newspaper statements, the cut in the railway services might result in great hardship. The Minister had suggested that an error of only one-half per cent. was made in calculating; the truth was that he had gambled against the weather.

Unless there was devolution of responsibility from London and the Regional boards, there could be no real improvement in production.

Mr. Philip Noel-Baker (Minister of Fuel & Power) said he was quite as anxious about the next two years as about the next two months. The result of the campaign to get more miners was so far very encouraging. Manpower at the face was now going up again, and output per manshift was 4 per cent. above last year. The Government proposed to accelerate opencast production.

The greatest immediate anxiety was stocks for power stations. The heaviest single blow which could be struck at industry and the housewife would be the shutting down of power stations. During the last eight weeks the power stations had used enormous quantities of coal. Over-riding priority for coal was given to the power stations, which used the same coal as industry, and the only way they could get more coal was by delivering less to industry than was planned.

All-Round Cut in Allocations

Unless they had prolonged harsh weather, continued Mr. Noel-Baker, they hoped that under-delivery to industry would be roughly 15 per cent. They had agreed with the suggestion made by the Federation of British Industries that while the cut remained at 15 per cent. it should be applied equally. There were arrangements for "rescue" operations for firms whose stocks were less than one week's consumption, and coal would be held back from firms who had stocks for six weeks or more. The Government agreed with the F.B.I. that it was better to avoid priorities unless things became worse.

After outlining Government plans for acting on the F.B.I. suggestion to make use of unused oil-driven generating plants, Mr. Noel-Baker said regarding domestic heating that they were getting coal from the gas works programme, and that the Minister of Transport had asked the railways to cut passenger services so that the housewife might get the coal instead.

Urgent measures had been taken to save coal in Government departments, the Forces, Ordnance factories and elsewhere, and they had stopped shop lighting and advertisements. With reasonable care, particularly by the general public, one million tons could be saved in the next three months, in shops, offices and homes, which might easily avert the difficulties they feared.

The danger was not for this winter only, but for next winter and later years. In view of increasing coal requirements both at home and for export, the Government had decided that during the next five years at least, the aim must be a high rate of opencast production.

The second way in which more coal could be got quickly was by more power loaders at the face, where conditions allowed. The third was manpower in the pits, and to this end the Coal Board had agreed a wage increase for lower-paid workers and was ready to negotiate a pensions scheme.

Rise in Cost of Coal

Those measures added to working costs. In addition, their materials would cost them more this year. The Board would have to carry some loss on the imported coal, and less coal would be exported this year than last. It was certain that the Board's earnings would be reduced. For these reasons, the Government had approved an increase in the pithead price of coal of 4s. 2d. a ton, which meant a rise of 5 per cent. in the retail price, and an increase in the *Interim Index of Retail Prices* of one-fifth of one point. In the last two years, the Board of Trade wholesale price index for coal had risen by less than 3 per cent., and, with that price increase, would still be under 10 per cent., which compared well with other commodities. There would be an increase of 6s. 3d. a ton in the price of coke.

Housing for miners and their exemption from various obligations of military service were then mentioned by the Minister.

Mr. W. G. Bennett (Woodside, Glasgow—C.) said that the coal that could be produced in Lanarkshire would keep the railways running full time. Coal supplies to the railways had been cut by 3,500 tons a week, and they were to be cut by 6,500 tons. Yet the miners who were unemployed in Lanarkshire could produce more than that quantity of coal week by week. The Government should face the fact that it was costing more to produce one unit of electricity and one therm of gas and costing more to run trains from London to Glasgow simply because suitable coal was not available.

Mr. J. A. Boyd-Carpenter (Kingston-upon-Thames—C.) said that the House was entitled to demand a statement of the price paid for American coal and the amount of dollars that had been expended; nor had they been told what the freight charges were.

Miss Irene Ward (Tynemouth—C.) referred to the bad quality of coal and its high cost, and said that the railways were certainly affected by it, and the railwaymen felt that their wage claims were impeded because of the high cost of coal.

Passenger Train Cancellations

Referring to cuts in passenger train services, Mr. R. S. Hudson (Southport—C.) said that to save a derisory 10,000 tons of coal a week, they would disorganise the habits of, and cause hardship to thousands of passengers. The rise in the price of coal meant an increase in the cost of coal to the railways, and to industry. To take an example, it meant an increase of 10s. in the cost of steel. The housewife would be hit twice, not only by the increase in the cost of domestic coal, but by the increased cost of gas and electricity.

Mr. Alfred Robens (Parliamentary Secretary to the Ministry of Fuel & Power) said that 10,000 tons a week of railway coal, which was suitable for the domestic market, was equal to one cwt. of coal a week for 200,000 domestic consumers. Since nationalisation, the N.C.B. had spent £100 million on better wages and conditions for miners. If money had not been spent in that direction the manpower position in the industry today would have been completely hopeless. The only way stocks could be built up in the summer was by taking coal from the export market, which had been done from time to time. Mechanisation had made great progress since nationalisation of the coal industry.

More coal, said Mr. Robens, was being used internally in this country than ever before. It would be several years before the country, with full employment, could produce in the mines enough coal for all its needs. The task of reconstructing the British mining industry would take years to near achievement. The industry could not quicken the pace of reconstruction and rationalisation to reach a figure of higher productivity at an earlier date, although output per manshift had increased. Increased mechanisation and rapidly improving relations in the industry should speed up progress; and he hoped that industrialists generally would take up the campaign for fuel efficiency.

The House then divided, and the motion was defeated by 300 votes to 289.

Transport (Amendment) Bill

The Transport (Amendment) Bill, as amended in committee, passed the report stage without further amendment in the House of Lords on January 30.

Questions in Parliament

Festival Train Services

Lt.-Commander Gerald Williams (Tonbridge—C.) on February 1 asked the Lord President of the Council when he expected to announce the result of the consultations between the Festival of Britain Office and the Railway Executive regarding train services.

The Home Secretary, Mr. Chuter Ede, who had been asked to reply, said: British Railways are themselves announcing from time to time details of all arrangements.

Lt.-Commander Williams: Could the Minister do anything to hurry a decision up, because many towns will try to act as dormitories, but do not yet know what extra late trains will be run?

Mr. Ede: I will draw the attention of the railway authorities to the question.

Mr. Bernard Braine (Billericay—C.): Will the Minister inquire whether the recent cuts in services will be restored?

Mr. Ede did not reply.

Festival Maps

Mr. Nigel Fisher (Hitchin—C.) on January 30 asked the Lord President of the Council if he would consider displaying large maps of London in prominent places for the guidance of visitors during the Festival of Britain.

Mr. Herbert Morrison: I do not consider any action by the Festival of Britain Office is needed, as London Transport is to display two large maps at all stations and in bus shelters during the Festival. One, entitled "Visitors' London," will show places of interest, including Festival activities; the second will show transport services in the Central London area.

Effect of Train Cuts on Output

Major Niall Macpherson (Dumfries—Nat. Lib.-Con.) on January 30 asked the President of the Board of Trade, whether he was aware that output of export industries at Langholm, Dumfriesshire, was being adversely affected by cancellation of late trains.

Mr. Hervey Rhodes (Parliamentary Secretary to the Board of Trade) in a written answer stated: I understand that only one mill at Langholm is at present working overtime, and ten workers normally travel by the train cancelled.

Staff & Labour Matters

Railway Wage Claims

The findings of the court of inquiry set up by the Minister of Labour have not yet been promulgated; but delegates representing some 25,000 footplate workers in Birmingham decided last weekend to put strike machinery into operation if the court were to make recommendations adverse to their interests.

Marine Workshop Staff

Because of non-settlement of their claim for increased pay, British Railways marine workshop staff at Parkeston Quay ceased work on February 2. Their claim is under consideration in conjunction with the general claim for a pay increase for railway workshops staff, which was the subject of discussion at a recent meeting of the R.S.N.C.

Road Haulage Drivers' Strike

The long-distance lorry crews who struck at Stratford Road Haulage Executive on January 29 returned to work earlier this week.

The whole question of integrated road-and-rail long-distance freight services and their possible effect on employment was further discussed at a meeting between the T.G.W.U. and the Railway and Road Haulage Executives on February 5.

Shipbuilding and Engineering Wages

Representatives of the Engineering & Allied Employers' National Federation and of the C.S.E.U. agreed at a meeting on February 5 that workers who have discontinued piece work or overtime should resume normal working so that any question of low piece rates can be reviewed.

New Booking Hall at Victoria, Southern Region

Including modernised ticket office and cold cathode fluorescent lighting

A new booking hall and ticket office was opened on February 5 at Victoria, Southern Region, for the Eastern Section. It forms part of the reconstruction scheme of the buildings adjoining platform 1, and occupies the same position as the old hall, which was badly damaged in the war, but is narrower by some 12 ft. on each side to provide a new ticket office and to extend the adjoining Continental baggage hall.

The ticket office is entered through a lobby and extends the full width of the booking hall. It accommodates six clerks, each with a desk unit and four Bellmatic ticket-issuing machines. The glazed front to the ticket office is constructed of bronze-frame window units; over each ticket window is a box with stencilled panels which may be illuminated to indicate the type of ticket issued. The ticket racks are of a new type, arranged in three tiers behind the windows, for quick service.

The new bookstall of W. H. Smith & Son Ltd. is designed to form part of the main scheme. In the centre of the hall is a timetable stand, with a Terrazzo-lined concrete base; the upper part is framed and panelled and supports two timetable units. Space heating is effected by cast-iron radiators concealed in recesses by flush-fitting plastic panels fitted with metal louvre grilles.

Lighting Schemes

Lighting is by means of cold cathode fluorescent tubing at ceiling level. The equipment has been supplied by the General Electric Co. Ltd., which has collaborated with the Chief Civil Engineer's Department, Southern Region, in planning the lighting schemes.

Over the centre of the hall a rectangular lighting feature, 30 ft. 10 in. long by 11 ft. 10 in. wide, has been built up with standard G.E.C. three-tube units placed end to end. This is supplemented by six 5-ft. dia. double circles of tubing at each side of the hall. This combination has made it unnecessary to provide local illumination for timetables and notices.

A single line of intermediate White tubing, 47 ft. long, is recessed behind glass panels over the booking office to give additional local lighting at the ticket windows. The transformers for operating this tubing and for the six circles are grouped behind the walls at each side of the hall. Those for the tubes in the central rectangular feature are housed in boxes which form an integral part of the design of the fittings themselves.

Principal Contractors

The general contractor was F. G. Minter Limited, and the sub-contractors included the following:—

Electric light fittings ...	General Electric Co. Ltd.
Travertine wall linings ...	H. Whitehead & Sons Ltd.
Terrazzo floors	Art Pavements & Decorations Limited
Fibrous plaster ceilings ...	G. J. Green & Sons
Bronze work	J. R. Pearsons (Birmingham) Limited
Station name panels ...	Partington Advertising Co. Ltd.
Plastic radiator panels ...	Warerite Limited
Saroblock cupboard doors and poster panels	Saro Laminated Wood Products Limited
Formica plastic panels ...	Thomas De la Rue & Co. Ltd.
Bellmatic ticket machines	Bell Punch Co. Ltd.
Clock mechanism	Gent & Co. Ltd.
Laylight fitting	Best & Lloyd Limited

The new Eastern Section booking hall at Victoria Station, Southern Region, looking towards the ticket office

Lord Hurcomb on Transport in Scotland

Progress of rail and road integration and plans for improved Clyde steamer services

Lord Hurcomb, Chairman of the British Transport Commission, has been inspecting railway, road haulage, and road passenger installations in Scotland during the past week, and on Wednesday last, speaking in Glasgow, made a statement on the general position of transport in Scotland and paid a tribute to the officers and their staffs on the improvements they had been able to show during three difficult years.

Lord Hurcomb said that British Road Services had now well consolidated their 27 operating groups in Scotland which comprised 184 depots and nearly 4,000 vehicles. Their first consideration in the matter of original permits, was to ensure the provision of the road haulage services which traders were entitled to expect, having regard to alternative facilities; they were not trying to put their competitors out of business. All things considered there had been few complaints of the service given. Occasional delays had been largely due to congestion at depots which had been in some cases asked to handle record tonnages and to unfamiliarity on the part of the staff with the new methods of handling.

The integration of road and rail services was now taking practical shape. They had just started an important new parcels service between London and Glasgow that should greatly benefit traders and the public. Cases and packages which would normally have been trunked by road from depots in London to depots in Glasgow would now be handled by rail in demountable containers. Whereas the average time taken for the journey by road was 36 hours, the time for the trunk haul by rail would average to begin with approximately 23½ hours, a saving of one-third or one day in effect. A similar combined road-rail trunk service by containers had been running experimentally for some time between London and Manchester and the traffic now carried in this way amounted to the equivalent of one train-load in each direction every day. This service also had resulted in a considerable speeding-up of deliveries. Likewise they were extending the zonal cartage schemes.

Economies Effected

Turning next to the development of the Scottish railway system Lord Hurcomb said that the creation of a unified system had yielded considerable economies. Through freight services were now being run covering longer distances with heavier loads at higher average speeds. The number of express freight trains had been continually increased, and in Scotland was now double the number run at the end of 1938. Running of 135 freight trains had been accelerated and punctuality had consistently improved. There had also been a considerable saving in transit time as the result of cutting out certain freight marshalling yards. Altogether the rearrangement of freight train working in Scotland had produced an annual saving of nearly £100,000. The complete unification of the railway system in Scotland since the British Transport Commission took over had resulted in economies amounting to over £2 million.

The B.T.C. and Railway Executive had had under review the Clyde steamer services, which had continued to operate at a considerable loss. They were anxious to improve these facilities and the Railway Executive had been authorised to place tenders for four new passenger ferry boats, with accommodation for 500 passengers each, and for three general-purpose ships carrying 500 passengers each, together with cargo and motorcars. These general-purpose ships would operate between Wemyss Bay and Rothesay, Gourock and Dunoon, Ardrossan and Arran. They would provide a fast service irrespective of the state of the tides, and improved equipment for the unloading of motorcars, containers and miscellaneous cargo would be provided. The new ferry boats would give a shuttle service between the mainland, the Cowal Coast, Bute and the Cumbraes. Altogether they would be spending roughly £1 million on improving steamer services on the Clyde.

The patronage of certain branch-line services continued to give anxiety. The point had now been reached where certain trains could no longer be subsidised by the rest of the system. Before recommending any withdrawals of service, however, the Scottish Region would require to know what alternative transport facilities were available, and the local authorities concerned would be kept informed. All reasonable regard would be paid to local circumstances in every case. Some 36 branch lines had been provisionally selected for examination in addition to the 28 branches on which some withdrawal or modification to services was authorised to the end of 1950.

With the merging into the Scottish Motor Traction bus group of various undertakings the whole organisation had been consolidated and strengthened in the past year. The total number of passengers carried in 1950 increased by 16 million over 1949 and the miles operated by 750,000. The passenger increase was largely in respect of short journeys.

The S.M.T. group had £1,400,000 worth of new coaches on order for delivery to the end of 1952 and had taken delivery of 20 new A.E.C. chassis for the Edinburgh-London service.

Statement to G.N.R.(I.) Stockholders

Criticism of basis of stock valuation

A statement by the Committee of the Stockholders' Protection Association of the Great Northern Railway Company (Ireland) was sent out to all stockholders on February 2, with a voting form asking if they agreed to accept the offer of the Governments of the Republic and Northern Ireland to acquire the undertaking "as a going concern as from January 1, 1951, for the firm figure of £3,900,000 payable in cash. The figure offered represents the average Stock Exchange valuation of the various stocks of the company over the three years 1948, 1949, and 1950." The prices taken for each £100 of stock by the Governments in their offer are estimated to be debenture 81⅓ per cent.; guaranteed 61 per cent.; preference 31½ per cent.; ordinary 20¾ per cent.

It is astonishing, says the statement, that after the above public exposure of the injustice that would be done in valuing the company by Stock Exchange quotations the Governments should propose it and assume that public opinion would approve it. From December 31, 1947, the illegitimate competition in the North against the company was intensified by the incorporation of the other railway companies into the Ulster Transport Authority; in both North and South the other major transport undertakings had the backing of public funds in a policy of rising costs, regardless of losses, which the company given no such backing had to follow.

Under the Northern Government White Paper the G.N.R.(I.) was also to be incorporated with the other railway companies into the Ulster Transport Authority. The company's standards of expenditure were regulated by the belief that if faith had not been kept under the Act of 1935 it was to be kept under the White Paper of 1946. On October 3, 1950, this belief was shown to be too innocent; the Government renounced its own White Paper. The Governments proposed on January 9, 1951, that the company be acquired at the lowest valuation for which any pretext could be found—one which leaves blameless stockholders to bear the brunt of successive failures to keep faith.

The Governments' offer, continues the statement, does them no credit in the light of the break-up valuation which they themselves are responsible for having obtained. The Chairmen of C.I.E. and U.T.A. were appointed by them to report on the future of the G.N.R.

One of the first steps taken was to ascertain its break-up value. This report has not been produced. The break-up value is known, because the company was required to tabulate particulars on which the assessment was based. In the case of lands and buildings the valuation was made by an independent surveyor. The total amounted to £5,009,990. The other property was reported to the Governments to be worth £5,866,508. The total break-up value is £10,876,498. The Governments' offer is less by £7,667,664 than the capital actually at work, and represented by assets to its full value, in the undertaking on December 31, 1950.

High expectations have been placed by the Northern Government in Parliament on the economies to be obtained if it now secures such co-ordination as it prescribed 15 years ago in a law of which it never concerned itself to enforce the principles. Whatever were the considerations which led the Governments to agree to joint action on January 9, 1951, they can have included no reference to the company's experience since 1935, to its outstanding achievement and financial soundness in spite of that experience and other exceptional handicaps, or to such expert inquiries into the system, its condition and its value, as are contained in the Milne Report or the report of the Chairmen of C.I.E. and the Ulster Transport Authority.

The statement concludes by questioning the morality in depreciating the company as a burden when it is, not a burden, but a source of profit except where crippled illegitimately; when its financial position is absolutely solvent; when it is the owner of lands and buildings which will obviously be made the national centres of transport; and when it has been the admitted leader in developing whatever modern railway services there are.

Further Passenger Train Cancellations

In compliance with the Government directive to reduce coal consumption, further cuts in British Railways passenger services were made with effect from February 5, with more withdrawals on February 12. It is expected that yet more trains will be withdrawn later on.

The cuts on February 5 and 12 result in a saving of some 6,500 tons a week and bring the total weekly reduction in passenger train coal consumption to 10,000 tons. In announcing this the Railway Executive states that the scale of curtailment required is bound seriously to affect passenger services. Though the inconvenience caused to the travelling public is much regretted the stage has already been passed at which worth-while economies could be obtained by pruning lightly loaded services. Previous curtailments, states the Executive, reduced weekly consumption by 3,500 tons; those on February 5 save a further 2,250 tons, and the third phase, effective from February 12, and necessarily the most drastic of all, will save 4,250 tons a week more.

By February 12 the railways will have made the required contribution of 10,000 tons of coal a week to the national coal economy effort—necessarily at the expense of passenger trains other than peak-hour suburban services and workmen's trains, as there can be no curtailment of essential freight services. To provide additional seating accommodation it is necessary to withdraw restaurant car facilities from certain trains. As much detailed information as possible is being given to the public by posters and at inquiry offices.

Principal Services Withdrawn

Principal services cancelled include:

Eastern Region: 12.00 noon Kings Cross-Glasgow and 10.50 a.m. Glasgow-Kings Cross ("Queen of Scots Pullman"); the "Harrogate Sunday Pullman" in either direction; 8.20 a.m. Swansea to York and 12.20 p.m. York to Swansea; 11.55 a.m. Yarmouth to Liverpool Street and 3.20 p.m. Liverpool Street to Yarmouth; also secondary main-line, and branch weekday and Sunday services (the latter largely in East Anglia).

London Midland Region: 10.50 a.m. Euston to Blackpool and 10.0 a.m. Blackpool to Euston; 2.15 p.m. Euston to Wolverhampton and 12.5 p.m. Wolverhampton to Euston; 9.45 a.m. Bournemouth to Manchester and 10.20 a.m. Manchester to Bournemouth (the latter to terminate at Birmingham); 7.20 p.m. (not Saturdays) Euston to Inverness; 7.30 p.m. (not Saturdays) Euston to Forfar to run to Inverness and convey through vehicles for Inverness, with withdrawal of Euston-Oban through portion; 2.0 p.m. St. Pancras to Bradford and 10.15 a.m. Bradford to St. Pancras; 10.15 a.m. and 4.15 p.m. St. Pancras to Manchester and 8.55 a.m. and 1.45 p.m. Manchester to St. Pancras (certain days only); 8.50 a.m. St. Pancras to Edinburgh and 10.10 a.m. Edinburgh to St. Pancras (South of Carlisle); 9.12 a.m. and 1.0 p.m. York to Sheffield; also certain services between Lancashire and Yorkshire and the North East. Restaurant cars will be withdrawn from certain trains. The Heysham-Belfast steamer service is being curtailed.

North Eastern Region: In addition to East Coast and L.M.R. (Midland Division) and cross-country expresses mentioned above, cancellations are mainly of interurban services within the Region, and of services to and from Lancashire.

Scottish Region: In addition to Anglo-Scottish services mentioned above, certain expresses between Glasgow and Birmingham, Liverpool, and Manchester will be withdrawn or combined in some instances with other trains. Interurban services also will be withdrawn.

Southern Region: Certain Victoria-Kent Coast and Charing Cross-Hastings, also cross-country trains mentioned under other Regions. Many London suburban electric trains are being withdrawn after 7 p.m. Mondays-Fridays and 3 p.m. Saturdays.

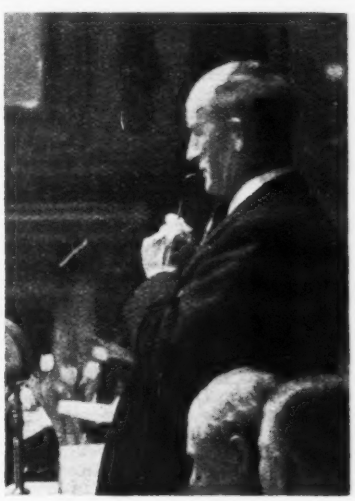
Western Region: 9.0 a.m. Paddington to Wolverhampton and 4.25 p.m. Wolverhampton (to run on Mondays only), with withdrawal of buffet cars from these services. Restaurant cars will be withdrawn from 9.10 a.m. Paddington to Birkenhead and 2.40 p.m. Birkenhead to Paddington. The 10.25 a.m. York to Bournemouth and 11.16 a.m. Bournemouth to York (*via* Banbury) will not run South of Leicester.

Poster issued by the Railway Executive announcing passenger train withdrawals

Speakers at the Permanent Way Dinner

Lt.-Colonel H. B. Everard

Mr. J. C. Peace



Mr. J. C. L. Train

Lt.-Colonel H. B. Everard, President, responding to the toast of the Permanent Way Institution at the annual dinner on January 27. In the centre, Mr. J. C. Peace is seen proposing the toast of the Past-President, to which Mr. J. C. L. Train replied (see our February 2 issue)

Contracts & Tenders

An order has recently been placed with the Eastern Car Company, Trenton, N.S., by the Canadian National Railways, for 40 steel-framed box cars. The cars, which are for use on the Newfoundland lines of the system, will have a capacity of 30 tons, and a feature of the design will be the especially wide side-doors to facilitate loading.

The Railway Executive has recently placed the following orders with the General Electric Co. Ltd. for lighting fittings in Eastern and North Eastern Region rolling stock: 270 large ceiling fittings for Festival of Britain coaches; 1,330 compartment ceiling fittings; and 170 corridor ceiling fittings.

The following contracts, which will be under the inspection of the consulting engineers, Messrs. Ranald J. Harvey, have recently been placed by the New Zealand Government Railways:—

Birmingham Railway Carriage & Wagon Co. Ltd.: 800 "Jc" type four-wheel sheep wagons; 25 "Ub" type bogie platform wagons.

Charles Roberts & Co. Ltd.: 200 "Q" type four-wheel hopper wagons; 300 "Xc" type four-wheel covered goods wagons of louvre design.

Cravens Railway Carriage & Wagon Co. Ltd.: 80 "Z" type bogie covered wagons of louvre design; timber bodies to be supplied in New Zealand.

Gloucester Railway Carriage & Wagon Co. Ltd.: 100 sets of underframes and bogies for "VB" type insulated wagons.

Hurst, Nelson & Co. Ltd.: 200 "H" type cattle wagons; bodies and doors to be supplied in New Zealand. 100 "W" type insulated wagons; timber bodies to be supplied in New Zealand.

Metropolitan-Cammell Carriage & Wagon Co. Ltd.: 2,000 "Lc" type four-wheel open wagons.

The order for 2,000 "Lc" type wagons placed with Metropolitan-Cammell Carriage & Wagon Co. Ltd. is valued at just over £1,000,000. Since the war this company has already supplied 2,500 similar wagons to New Zealand.

Notes and News

Watford Train in Collision.—A motorman and a passenger were injured when a Watford bound electric train and a light engine came into collision outside Euston Station on February 5. The light engine was pushed over on to its side. The accident occurred as the electric train was pulling out of the station.

London-Scotland Overnight Coach Service Sanctioned.—Northern Roadways Limited, of Glasgow, has been authorised by the Scottish Traffic Commissioner to operate overnight motorcoach services, beginning in May, between London and Glasgow and London and Edinburgh. A fleet of 60 vehicles is being built at a cost of £300,000 and will be equipped with airliner seats, kitchens for providing hot meals, and toilets. The coaches will carry hostesses.

Plant for the Manufacture of Railway Wheels.—At the Trafford Park works of Taylor Bros & Co. Ltd. the manufacture of railway wheels is being transferred to a new plant constructed as part of the steel industry development plan at a cost in excess of £750,000. The plant, which is claimed to be the most modern of its kind, has been designed to manufacture forged-steel and rolled-steel solid wheels and disc centres at a continuous rate of 60 an hour, and will be in production within the next few weeks. With the new equipment it will be possible to produce a wheel within close tolerances so that subsequent machining may be reduced to a minimum. Special attention has been paid to improved methods of handling, automatic or semi-automatic, to ensure rapid transfer of material between the various items of plant. All items are operated from two control rooms, which are supplied with filtered air, and the temperature of these rooms is regulated to give the operators clean and healthy conditions protected from heat and steam.

Dorman Smith Holdings Limited.—The directors of Dorman Smith Holdings Limited announce that they have acquired a modern iron foundry, which will be operated by their wholly-owned subsidiary John Booth Foundries Limited, Preston. The operating companies of the group are now Dorman & Smith Limited, DS Plugs Limited, British Klockner Switchgear Limited, Alorite Limited, John Booth Foundries Limited, and Dorman & Smith (Pty.) Limited, South Africa.

Derailment on Pennsylvania Railroad.—A Pennsylvania Railroad train from New York to Bayhead Junction on February 6, was derailed at Woodbridge, New Jersey, and the electric locomotive and five coaches fell 20 ft. into the roadway below. The latest reports state that 61 persons were killed and 380 injured. The accident occurred as the train, crowded with business people returning from New York, was crossing at high speed a temporary bridge over a new highway.

Holyhead Ship-to-Train Transfer.—A speedier disembarkation at Holyhead is planned by the London Midland Region of British Railways for this summer by means of electrically operated steel platforms and staircases which can be adjusted to tide level before the arrival of ships from Ireland. Passengers will thus disembark by straight instead of sloping gangways. Meantime larger accommodation for customs purposes has been provided to meet the increased traffic from the *Cambria* and *Hibernia*, and it is estimated that 1,000 persons an hour can be dealt with.

New Credit for Egyptian State Railways.—An agency message states that the Director-General of the Egyptian State Railways has asked the Ministry of Finance to open credits amounting to £E12,000,000. The administration is planning to purchase 120 locomotives, 300 coaches and 2,600 wagons with the amount. It is understood that the Ministry of Finance has approved in principle the opening of the requested credits, and negotiations with prospective supplying countries, such as Britain and France, are likely to take place soon.

Steel Company of Wales.—The trading profit of the Steel Company of Wales for the year ended September 30, 1950, is shown in the statement of the Chairman, Mr. E. H. Lever, circulated with the report and accounts, to be £2,412,323, or £298,458 higher than for the previous year. It is thought advisable to carry forward the balance of profit available after paying the restricted dividend of 4 per cent. for the year; this balance now amounts to £1,451,512, an increase of £457,457. Expenditure sanctioned by the board on the development scheme at September 30, 1950, amounted to some £63 million, of which two-thirds had been incurred to date. On nationalisation, the 3 per cent. first mortgage debenture stock 1952-57 will not rest in the new corporation, as it is not included in securities to be transferred under the act.

West German Transport Exhibition.—A transport exhibition is to be organised in Essen in August and September this year. It will cover all aspects of passenger transport, including development possibilities.

Restoration of Greek-Jugoslav Rail Link.—An Agency message from Belgrade states that the railway connection between Jugoslavia and Greece, suspended in February, 1948, because of guerilla activities, will be restored by February 23. The "Simplon-Orient" express is also expected to restore its Belgrade-Athens section shortly.

Institution of Locomotive Engineers Annual Luncheon.—The annual luncheon of the Institution of Locomotive Engineers will be held at the Dorchester Hotel, Park Lane, London, W.1, on Friday, March 9. The reception will commence at 12 noon and Mr. R. A. Riddles, President of the Institution, and Member, Railway Executive, will preside at the luncheon, which will follow at 1 p.m.

Butler Machine Tool Company.—In his statement circulated with the report and accounts of the Butler Machine Tool Co. Ltd., the Chairman, Mr. James W. Butler, has said that orders for home and export markets are being received at a rate greater than current production; output is limited by shortage of skilled labour, and taxation much reduces the profit which can be ploughed back to finance new capital assets. Current assets exceed liabilities as at September 30, 1950, by £235,957 (against £196,118 for the previous year).

Transfer of De La Rue Extrusions Limited to Parent Company.—The directors of Thomas De La Rue & Co. Ltd. announce that to facilitate the operation of their industrial group, their wholly-owned subsidiary company, De La Rue Extrusions Limited has been placed in voluntary liquidation and its assets and liabilities taken over by the parent company. The business will in future operate under the plastics division of Thomas De La Rue & Co. Ltd. This change will in no way affect the continuity of the business and no change in personnel will be involved.

United Railways of Havana.—The Chairman of the United Railways of the Havana & Regla Warehouses Limited, Mr. R. G. Mills, recently went to the U.S.A. to see what preliminaries may be necessary for action as recommended by the recent mission to Cuba. The mission suggested the merging of the Consolidated Railroads of Cuba and the United Railways of Havana and the acquisition by sugar companies of a substantial minority interest. The new scheme of arrangement was approved at shareholders' meetings on January 30.

The Engineers' Guild.—Most chartered engineers have at times felt the need for an organisation properly equipped and powerful enough to protect their professional interests, and for this reason the Engineers' Guild was founded in 1938. The Guild, which has its head office at 28, Victoria Street, London, S.W.1, is not a trade union, and is now seeking registration under the Companies Acts. Many leaders of the engineering professions, including members of the councils of the senior Institutions, actively support the

OFFICIAL NOTICES

Guild. Thirteen branches have been authorised and most of these have now been inaugurated. For the overseas branch the council has appointed a committee consisting of members with wide overseas experience and now resident in London. Graduates and students are eligible to join as associates, and subscription rates are £2 2s. a year for members and 10s. 6d. a year for associates.

John I. Thornycroft & Co. Ltd.: Indian Agent.—The directors of John I. Thornycroft & Co. Ltd. have appointed the Hind Motor Corporation, Bombay, as their commercial vehicle and vehicle engine distributors in that area.

Hadfields Limited.—The directors of Hadfields Limited have declared an interim ordinary dividend in accordance with Section 19 of the Iron & Steel Act, 1949, at the rate of 17½ per cent. per annum for the period October 1, 1950, to February 14, 1951.

British Bus for Norway.—One of the longest 4-wheel buses to be put in operation in Norway is a new Leyland Tiger export model OPS.4. The bus has an overall length of 39 ft. 3 in. or nearly 10 ft. in excess of the maximum length allowed for single deck buses in Britain. The body was built in Norway by Rogaland Karosserifabrik and its interesting features include staggered individual seats for 49 passengers and heating radiators coupled to the engine water circulation system.

New German-Danish Ferry Service Proposed.—Negotiations to establish a new ferry service between West Germany and Denmark have been held between representatives of German Federal Railways and the Danish State Railways in Hamburg. It is planned to operate the new service between Grossenbrode, on the German Baltic coast, and Gjedser. Two ferry boats, the *Danmark* of the Danish railways, and a German vessel, will operate the service. It is planned to transport only motor vehicles at first, but ferry installations are to be enlarged within the next three years, so that railway rolling stock may also be transported.

Ellison Luncheon Club Meeting.—The first meeting of the Ellison Luncheon Club was held in Birmingham on January 24. Mr. T. G. Ellison, Director, George Ellison Limited, Perry Bar, Birmingham, presided, and the principal speaker was Professor A. M. Low. The club has been founded to foster the team spirit in the Ellison organisation, which includes George Ellison Limited and Tufnol Limited, and it is proposed to hold meetings every two months, when speakers will give their views on a wide variety of subjects. All grades of employees of the Ellison organisation will have the opportunity of attending the luncheons in turn.

Institution of Locomotive Engineers.—At a general meeting of the Institution of Locomotive Engineers, to be held at the Institution of Mechanical Engineers, Storey's Gate, London, S.W.1, at 5.30 p.m. on February 21, Mr. R. F. Harvey, Vice-President of the Institution and Chief Officer (Motive Power) Railway Executive, will read a paper entitled "Modernisation of a Large Motive Power Depot, Polmadie, Scottish Region."

Leyland Motors Limited.—The directors of Leyland Motors Limited have decided to raise the dividend from 20 per cent. to 25 per cent. for the year ended September 30 last. The special tax free payment out of the surplus realised on the sale of fixed assets, however, will be only 6d. against 1s. the year before. Gross trading profits have risen from £1,982,422 to £2,178,360. Net profits are also higher at £801,693 as compared with £706,154.

Richard Thomas & Baldwins: Dividend.—Subject to the required certificate of profits, a final dividend at the rate of 8·4 per cent. (actual) on the ordinary stock in respect of the financial period ending February 14, 1951, will be payable by Richard Thomas & Baldwins Limited on June 4. This dividend, together with the 5 per cent. interim already paid, represents the maximum ordinary dividend permissible under the provisions of the Iron & Steel Act, 1949. The total dividend for the previous year ended April 1, 1950, was 15 per cent.

Holiday Scheme for Scottish Miners.—British Railways in conjunction with Thos. Cook & Son Ltd., have arranged an all-in holiday scheme for Scottish miners and their families. The scheme which has been prepared with the co-operation of the National Coal Board, provides for a holiday on the South Coast of England for £16 10s. a head and includes a visit to the Festival of Britain Exhibition in London. The resorts in the scheme will include Brighton, Hove, Eastbourne, Margate, Ramsgate, Hastings, and Folkestone, and full board will be provided for six days. Travel will be by special train with reserved seats in each direction.

York Locomotive Society.—The January meeting of the York Locomotive Society, which was held in the Railway Institute, York, was attended by 50 members; Mr. R. S. Jackson presided. In a paper on "Motive Power Depot Operation," Mr. J. S. Pigg, Mechanical Assistant to the Motive Power Superintendent, North Eastern Region, described the various designs of motive power depot and pointed out the advantages of each type, in relation to the provision of motive power and the servicing and maintenance of locomotives. With the aid of lantern slides and diagrams Mr. Pigg referred to some of the essential items of plant and equipment necessary for the efficient working of large and medium size depots, and illustrated the operations carried out from the arrival of a locomotive to its despatch from the depot for subsequent working.

Lancaster and Heysham Electric Train Service.—Because the electric trains on the Lancaster-Morecambe-Heysham section of the London Midland Region of British Railways require bringing up-to-date with standard equipment a push-and-pull steam service will for the time being replace the electric service as from February 11.

Devon General Omnibus Company.—A final ordinary dividend of 10 per cent., *plus* a 15 per cent. bonus, making 35 per cent. for the year (as for the previous year) is to be paid by the Devon General Omnibus & Touring Co., Ltd. The net profit was £70,278 (£159,400) after providing £62,436 (£53,358) for depreciation and £27,500 (£27,000) for taxation.

Quick-Frozen Fruit by Passenger Train.—The Eastern Region of British Railways announces that it has been arranged to forward by passenger train six days a week, two "AF" containers from the firm of Frigidfruits at East Side, Royal Docks, Grimsby, containing quick-frozen fruit for transport to Strabane, Northern Ireland. Each consignment consists of four tons of fruit, loaded two tons per container and serviced with dry ice, and for the use of this type of highly insulated vehicle an additional charge of 25 per cent. as container differential is levied. The traffic is being sent to Ireland for canning and is arriving at destination in excellent condition.

Eastern Region Informal Staff Meeting.—Mr. C. K. Bird, Chief Regional Officer, Eastern Region, presided at a meeting at the Bishopsgate Institute, London, on January 30, which was attended by representatives of local departmental committees and works committees in the London area, and trades union officials. A number of these informal meetings have recently been held and it is intended they should enable the men's official representatives to meet Regional Officers in an atmosphere in which all aspects of Regional working can be freely discussed. Present with Mr. Bird were Messrs. C. Dandridge, Commercial Superintendent, Mr. J. I. Campbell, Civil Engineer, Mr. H. C. Johnson, Divisional Operating Superintendent (Western), A. R. Dunbar, Divisional Operating Superintendent (Eastern), Mr. L. P. Parker, Motive Power Superintendent, and Mr. H. H. Halliday,

Regional Staff Officer; District Officers and others responsible for the working and administration of the Region also attended. Mr. Bird emphasised that the meeting did not replace any stage of the established negotiating machinery. A lively discussion produced many interesting points, some of which were settled immediately, and others, particularly those connected with more efficient and remunerative working, noted for further consideration.

Forthcoming Meetings

February 10 (*Sat.*).—British Railways, Southern Region, Lecture & Debating Society. Visit to the new B.E.A. electric power station at Croydon.

February 12 (*Mon.*).—Institute of Transport, at the Jarvis Hall (R.I.B.A.), 66, Portland Place, London, W.1. Brancker Memorial Lecture. "Some Economic Aspects of Airline Operation," by Mr. Peter G. Masefield.

February 13 (*Tue.*).—Institution of Mechanical Engineers, Storey's Gate, St. James's Park, London, S.W.1, at 5.30 p.m. Automobile Division: Discussion on "Wear of Fuel Injection Equipment and Filtration of Fuel for Compression-Ignition Engines," by Mr. A. E. W. Austin and B. E. Goodridge.

February 13 (*Tue.*).—Institute of Transport, Guildford Group, at the Railway Hotel, Guildford, at 7 p.m. Discussion: "Co-ordination — taking Stock," leader, Brigadier-General Sir H. Osborne Mance, Immediate Past President.

February 14 (*Wed.*).—Royal Society of Arts, John Adam Street, Adelphi, London, W.C.2, at 2.30 p.m. "1851-1951, A Century of British Science," by Mr. D. McKie.

February 14 (*Wed.*).—British Railways, Southern Region, Lecture & Debating Society, at the Chapter House, St. Thomas' Street, London Bridge, S.E.1, at 5.45 p.m. "Some Factors in Railway Commercial Practice," by Mr. David Blee, Member, Railway Executive.

February 14 (*Wed.*).—Railway Students' Association, London School of Economics & Political Science, Houghton Street, Aldwych, London, W.C.2, at 6 p.m. "Suburban Railway Operation," by Mr. C. F. Klapper, Assistant Editor, *Modern Transport*.

February 15 (*Thu.*).—Diesel Engine Users Association, at Caxton Hall, Westminster, London, S.W.1, at 2.30 p.m. Informal Discussion: "Operating Problems."

February 15 (*Thu.*).—British Railways (Western Region) London Lecture & Debating Society, in the Headquarters Staff Dining Club, Bishop's Bridge Road, Paddington, W.2, at 5.45 p.m. Railway Quiz: Question Master, Mr. H. G. Bowles, Assistant Chief Regional Officer, Western Region.

February 16 (*Fri.*).—Carlisle & District Transport Club, at the County Hotel, Carlisle, at 7.30 p.m. "Road Haulage Executive: Organisation & Operation," by Mr. N. C. McPherson, Divisional Manager, North Eastern Division, Road Haulage Executive.

February 17 (*Sat.*).—Permanent Way Institution, Manchester & Liverpool Section, at the Headquarters of the St. John Ambulance Brigade, Chapel Walks, Preston, at 2.30 p.m. "Can we Mechanise Maintenance?," by Mr. W. H. Best, District Engineer, Lancaster, London Midland Region.

Railway Stock Market

Values and business in stock markets have continued to expand in all sections with the exception of British Funds which remained uncertain and lower because buyers are holding off until after next week's big issue of nationalisation steel stock. The impetus to markets has been provided by further large selling of steel shares by holders who do not wish to exchange into the nationalisation stock which will yield only approximately 3½ per cent., compared with yields of up to 5 per cent. still obtainable on some leading industrial shares. On the other hand, current prices of steel shares are equivalent to steel stock at a discount of as much as £3; and therefore steel shares are attractive as a means of acquiring an interest in British Funds for large investors such as the big financial institutions and investment trusts.

The view in many quarters is that even if steel stock starts its market life at a discount it will probably rally well in due course. The argument is that a big defence loan is a possibility, that the authorities cannot let British Funds decline heavily in price and that they may in fact decide sooner or later to support the market.

If the Budget brings a big increase in taxation, particularly in the Profits Tax, current hopes of higher dividends from numerous leading industrial shares would have to be abandoned. In that event British Funds might return strongly to favour.

Meanwhile markets are particularly active with recorded dealings at their highest daily level since 1947, when investors were getting out of home rails and Argentine rail stocks into industrial shares, because of nationalisation, just as they are now switching from steel shares into other industrials.

Foreign rails have been more active this week and movements, although small, were mostly in favour of holders. Canadian Pacifics were prominent with an advance to 53½. This reflected the general rise in dollar stocks in which Canadian securities have been prominent, and also hopes of higher freight rates. Canadian Pacific preference stock was better at 77½ and the 4 per cent. debentures 77½.

There was further buying of Mexican rail stocks due partly to U.S. demand and a continued talk of a possible revaluation of the Mexican peso. Mexican Central "A" bonds were up to 62¼ and National of Mexico 4½ per cent. non-assented bonds were 41½.

Elsewhere, there has been active buying of Antofagasta, particularly the preference stock which rose to 55½, at which there is a yield of 8⅛ per cent. on the basis of their annual 5 per cent. dividend, excluding the outstanding arrears of dividend. Antofagasta ordinary stock was 8¼, but like the preference stock failed to hold all an earlier advance.

Nitrate Rails held their rise and were firm at 81s. 3d., while Taltal shares further improved to 19s. Great Western of Brazil held steady at 157s., Brazil Rail gold bonds were again 43, and San Paulo 10s. units changed hands around 16s. 9d. In other directions, La Guaira ordinary stock was 82, and Bolivar "C" debentures 57.

United of Havana stocks were easier with the 1906 debentures at 16½. Manila "A" bonds eased to 58 and the preference shares were 5s. 6d. Leopoldina stocks attracted only moderate business, but held firm with few sellers about. The ordinary was 11, the preference 28, with the 4 per cent. debentures 99¼ and the 6½ per cent. debentures 147½. Leopoldina Terminal 5 per cent. debentures rallied to 95½; the ordinary units were 1s. 3d. In other directions, Dorada stock was dealt in around 78½ and Chilian Northern debentures around 43.

Road Transport issues showed few movements, apart from B.E.T. deferred stock which advanced to £535. Southdown were 110s., West Riding 54s. 6d., Lancashire Transport 61s. 3d., while South Wales Transport 6 per cent. preference marked 21s. 4½d. and Ribble Motor Services ordinary shares 85s.

Engineering and allied shares, after rising further, were inclined to be affected by the higher costs resulting from the rise in the price of coal. Machine tool shares, however, were bought at higher levels.

Locomotive building and engineering shares have been firm again, with Hurst Nelson 61s. 6d. at Glasgow and Birmingham Wagon 33s. 1½d. Vulcan Foundry were 25s. 9d., Gloucester Wagon 15s. 4½d., North British Locomotive 23s. 4½d., Beyer Peacock 26s. 3d., and Wagon Repairs 15s. 9d.

Traffic Table of Overseas and Foreign Railways

	Railway	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1948/49	No. of week	Aggregate traffics to date: Total 1949/50	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta ...	811	28.1.51	102,140	+ 34,080	4	395,530	+ 116,270
	Costa Rica ...	281	Dec., 1950	c883,460	+ c525,677	26	c6,180,729	+ c1,024,867
	Dorada	70	Nov., 1950	36,972	+ 13,063	48	428,205	+ 107,418
	Inter. Ctl. Amer. ...	794	Dec., 1950	$1,205,407	— $54,553	52	$13,466,226	+ $1,071,160
	La Guaira	22¼	Sept., 1950	$68,726	— $39,529	39	$725,535	— $241,943
	Nitrate	382	15.8.50	10,816	— 8,656	32	286,336	+ 6,203
	Paraguay Cent. ...	274	26.1.51	₲211,215	+ ₲75,613	30	₲6,067,438	+ ₲1,790,570
	Peru Corp. ...	1,050	Dec., 1950	$7,347,000	+ $560,800	26	$46,130,000	+ $12,334,042
	" (Bolivian Section)	66	Dec., 1950	Bs.13,328,000	+ Bs.2,616,000	26	Bs.69,914,000	+ Bs.7,044,836
	Salvador	100	Dec., 1950	c246,000	— c32,000	26	c769,000	+ c39,000
	Taltal	154	Dec., 1950	$1,435,116	— $57,262	26	$9,256,802	+ $1,584,101
Canada	Canadian National†	23,473	Oct., 1950	18,063,000	+ 2,947,000	43	150,250,000	+ 13,286,000
	Canadian Pacific† ...	17,037	Dec., 1950	11,274,000	+ 1,235,000	52	126,192,000	+ 5,108,000
Various	Barsi Light* ...	167	Nov., 1950	30,142	+ 2,482	35	231,667	+ 6,945
	Egyptian Delta ...	607	10.10.50	18,245	+ 1,296	28	319,911	— 24,005
	Gold Coast ...	536	Dec., 1950	304,770	+ 18,020	40	2,263,935	+ 83,014
	Mid. of W. Australia	277	Nov., 1950	40,070	+ 10,472	22	193,383	+ 51,544
	Nigeria	1,900	Jan., 1950	502,360	+ 38,978	44	5,017,814	+ 266,573
	South Africa ...	13,347	6.1.51	1,531,505	+ 296,985	39	68,094,555	+ 8,737,157
	Victoria	4,744	Sept., 1950	1,729,344	+ 103,977	13	—	—

* Receipts are calculated at 1s. 6d. to the rupee

† Calculated at $3 to £1